Déjà-Vu News:

How do Local Print and Broadcast Websites Present News?

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Abstract:

News websites produced by local U.S. newspapers and television news stations appear to most strongly distinguish themselves by having characteristics similar to those of their original medium. As audiences increasingly go online to find out the news, broadcast and print news outlets are finding a way to present their stories and interact with these consumers. This study looks at a sample of local television news and newspaper websites to determine what factors influence their presentation of news. In analyzing 14 unique attributes of local news websites, these results suggest that original medium of the news website matters most in determining the presentation of a local news websites. Market size, cross-medium ownership within a market and national affiliation also influence local news websites to a lesser extent. (126 words)

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For decades Americans have used their television and morning newspaper as primary resources for accessing the news. More recently, however, people have started looking for their local, national, and international news on the internet. A 2009 study by the Pew Research Center shows that 31% of the public uses the internet to learn about local news (Stop, 2009) and in December 2008 the Center found that 40% of people get their national and international news from the internet (Internet, 2008). With this increasing demand for news via the internet, local television news stations and local newspapers are posting more of their news online. Audiences can now find content that news outlets traditionally created for the television or print mediums in the form of text stories and video packages posted on a website. While many different factors already affect how local print and broadcast outlets gather, research, produce and broadcast their stories, this change in the medium they use to disseminate stories impacts the news that citizens receive.

By transferring stories to the internet, news producers must transform the process of how their news gets to online consumers. Online stories reach a different audience that checks news websites at its leisure. This new audience is a group of consumers made up of more young people than any other age group (Rainie, 2009). The new viewer demographic contrasts with the traditional newspaper and television news demographics, those who watch the evening news or read the daily newspaper, and this difference may affect how media companies cater to their diverse audiences online (State, 2009). The layout of websites plays a factor in how people consume the stories, impacting, for example, how they scan the page or whether they read a text story from the newspaper's morning edition or watch a video package from the late night news show. An analysis of news presentation on local news websites not only reveals the influence of

the two traditional media platforms on online news, but also indicates how local newspapers and television stations retain their traditional characteristics on the internet.

Competition between media outlets has always been important to the news market. Originally, daily newspapers competed with each other within a local market. The expansion of local television news in the 1950's and 1960's then forced newspapers to also vie with television news for their audience, each trying to produce news content more attractive to readers or viewers. These products were vastly different, however, because of discrepancies between the methods of presenting news on a television versus in a newspaper. With the introduction of the internet, however, print and broadcast media can compete with each other on this new online platform. While both originally sell news in very different mediums and with dissimilar production models, broadcast and newspaper news stories have made their way online.

Previous Research and Theory

This study examines the similarities and differences in website presentation of content by local broadcast and print outlets. In a 2001 study analyzing the content of newspaper, television, and radio news websites, Lin and Jeffres found that each medium's websites reflected their "traditional strengths and features" (Lin and Jeffres, 2001) These features will be discussed later in describing my hypotheses. The study noted major differences in how each medium presented the news, interacted with the audiences, promoted their original medium and utilized technical innovations on the web. On the other hand, the study observed little to no effect of market competitiveness within a news market as a driver of website content and presentation. Gunter echoed this discovery, explaining the lack of competition in the late 1990's by pointing out that the traditional battle for ratings between local television stations had not yet manifested itself

online and that the online staff for newspapers and television stations had not yet developed and cultivated the "traditional competitive values of journalism" (Gunter, 2003).

A study by Kiernan and Levy also demonstrated that the level of competition in local television news did not appear to affect their websites (Kiernan and Levy, 1999). One of its explanations of this finding mirrored Gunter's conclusion, noting that the individual reporters working with the website had not yet been inspired by journalism's competitiveness to produce a better news website than their competitors. They also attribute this lack of competition to the fact that many television stations in 1999 had not yet created websites at all, lessening the variety of competitors within a market.

In contrast to the earlier studies, an examination by Patterson of the changes in user demand for internet news provides cause for a current analysis of news websites (Patterson, 2007). Throughout the last decade, the demand for internet news on both television and newspaper websites has likely changed how traditional media create their online news. Patterson shows by looking at audience demand how market size has a real impact on the amount of traffic that a newspaper or television online website receives. For example, while large market competitors with brand-name websites have sustained an increase in website traffic, user traffic to smaller daily newspaper websites has declined. Visits to websites of local commercial television stations have risen only in the last several years but lag far behind the numbers of viewers that browse newspaper websites, largely because of their late entry into the online news market.

This study focuses on news website form and content. A 2002 study shows directly how news form and content can change when transferred to the internet. Barnhurst showed that while the content of website editions of printed newspapers has changed slightly, the form of the

websites compared to the printed papers has not changed (Barnhurst, 2002-2). His analysis describes internet newspapers as an attempt by "print publishers [to] use their Internet presence as a low-cost place holder that guards their U.S. market position." The presentation of news on websites reflects a simple transition of journalists' printed stories to online pages, providing an option for their customers to view the same newspaper content online.

Barnhurst does reference in his study how content has changed, however, showing that competition in the online news market has spurred reporters to increase story length and link their stories to more related events (Barnhurst, 2002-1). Likewise, his analysis discusses how editors are pushing more local content for newspaper websites that will appeal directly to the newspaper's readers. While Barnhurst's study attributes these changes to the market conditions as a whole, an increase in competition on the web with local television websites may have triggered both of these content adjustments.

My analysis also considers the opposing point of view, investigating the claim that the internet's impact has been to move choice of coverage further away from local news to national news. An article by Cooper argues that the internet lacks the same ability of traditional mediums to engage and relate to people in a geographic region (Cooper, 2005). He says that while broadcast and print news have lost some of their local focus due to consolidation of ownership, the internet never focused strongly on local stories. Because users can search for and consume very specific pieces of information on the internet, there are fewer users interested in the creation of each local news story. Hargittai furthers the point made by Cooper by looking at consumer demand for local news (Hargittai, 2007). She finds local news content to be more difficult for users to access because of the internet's focus on the aggregation of national news. Hargittai does

agree, however, that the largest contributions to local online news stem from traditional local news sources posting their content online.

By transferring their print media to websites, online newspaper reporters and editors have undergone an important change in how they approach news. Competition with broadcast news websites and other new forms of online news has altered the process of news reporting and story production for print journalists. Boczkowski explains how newspaper journalists have been forced to change their published stories in two ways (Boczkowski, 2004). In order to adapt to new technologies and trends in the video and online mediums, reporters have expanded beyond simple print stories and have altered the dynamics of how they relate to their audience. To create a complete story online, reporters must consider including a video and other interactive elements in their stories instead of simply reprinting their content online. Likewise, they now broadcast to an audience online that can respond by commenting on a story or in a forum, altering the dynamics from a traditional one-to-many interaction to a many-to-many discussion.

These previous studies point out how newspapers have changed their content to fit the growing demands of the internet and how local television websites have begun to enter the market and possibly compete with print websites. Conversely, media research has not generated many studies on how television news has changed by moving online. Television stations in the late 1990's did not compete online primarily because few stations had yet transferred to the online medium. This has changed: the State of the News Media Report in 2008 found that 97% of local television stations had their own websites (State, 2008). This move by local television stations into the online market begs the question of whether television now competes with newspapers in the local online news market and if that drives their websites to change.

Basis for Methodology

The basis for this study's analysis of news websites will mirror many characteristics of the study done by Jeffrey Milyo for the Federal Communications Commission in 2007 (Milyo, 2007). His study looked at television news programs in large and small news markets all over the U.S. to assess the effects of cross-media ownership on political news coverage for television news. Cross-media ownership is the alliance of two different news mediums for the purpose of working together in newsgathering and production. To generate data, Milyo coded for the amount of broadcast time spent discussing local news as opposed to national news in cross-owned station broadcasts and not cross-owned station broadcasts and measured this by having coders watch segments of each station's news. His coders classified the segments as local or non-local news. A separate set of coders then recorded the differences in political slant. In exploring the data, Milyo separated each of the variables according to whether the station was cross-media owned with newspaper or radio or if it was affiliated to a parent company or network. Milyo's analysis served as one of the FCC's most important studies in changing its cross-media ownership rules to allow ownership of television stations across several different markets ("Report and Order", 2007)

The analysis collection for this study is different than Milyo's study in that it focuses less on direct content analysis and more on website presentation. Because the purpose of Milyo's study was to address the political slant of content on television broadcasts, he coded for types of news content. This study analyzes both how content is presented and other characteristics of website presentation due to the underlying research question's emphasis on finding out the difference between the websites. Milyo's study is useful in that it provides a framework for data

collection and accounts and controls for many confounding variables in the news market, such as Designated Market Area (DMA), market size, and ownership.

To analyze the data, I not only look at differences that original medium has on websites, but separate and group news websites by other important factors, such as market size, ownership, and affiliation. Using Milyo's news markets provides an extremely diverse group of possible websites from which to collect data. Each of the markets holds at least one daily newspaper and multiple television stations with websites. In order to account for ownership, I checked the record for cross-media ownership on the FCC website and made sure that I had both independent and cross-owned television and newspaper websites in each market. In addition, when I gathered the group of websites from which to collect data, I ensured that the television websites did not all stem from the same network, diversifying between affiliates of national broadcast and cable networks to later look for differences between the affiliates.

Before I describe my hypotheses, however, it is important to define categories of the variables to be studied. Eveland defines several terms which I use to engage and study each online news site (Eveland, 2003). He details six prime attributes that differentiate news websites. These attributes are explained in the chart below:

| Interactivity | How does the website invite the user to interact with other users? Can the user contact the news outlet's reporters or editors? |
| Organization or Structure | How is the website laid out? Does it follow linear layout like that of a newspaper? Or does it use boxed graphics like those on television stations? |

Control	How much control does the user have over the news experience? What aspects of the site give the user control?
Channel	How does the site appeal to the user's senses? Does the site try to simulate reality?
Textuality	How does the website use text on the page?
Content	How are stories diverse? What subjects do they focus on?

His strongest argument for using multiple factors to analyze the differences between mediums is that it helps separate the characteristics that produce media effects from the effects of media content themselves. In other words, Eveland advocates the study of a news website's presentation because presentation is a unique aspect of a station's website that the station has complete control over. Observing individual stories does not distinguish the website, as a user may understand the impact of a news story based solely on the story's topic instead of reflecting the news station's contribution to the story.

One factor that Eveland does not discuss in his definition of attributes is the inclusion of citizen-based media. In 2009 the State of the News Media report introduces these citizen created media sites as an emerging alternative to traditional online media (Journalism.org, 2009). The report claims that the entry of these non-professional news sites into the online news market does not directly compete with mainstream media, but provides a complementary role in which citizens can delve into specific topics and provide more in-depth stories on niche areas of the news, such as science or education. Some websites of traditional news outlets have made a push

to incorporate citizen-based media by adding a link to their front page where the public can post their own stories or even just add a short commentary of one or two sentences. News outlets that conduct and post the results of polls on their websites also allow citizens to contribute their opinion directly and quickly view the results of the poll in a way that newspaper and television stories cannot achieve. This adds another variable:

Citizen Media	Is there an option for internet users to post their own stories on the website? Does the page have a poll question for users to add their vote with a click and view the results immediately?

While the presence of citizen media and polls will not weigh in on the research question because they has not been observed before, the two attributes can provide another reference point with which to compare the two traditional mediums to other outlets.

Charting the Local Online News Landscape

This analysis focuses on finding, charting and highlighting the differences between television and newspaper websites. The sample observes 127 websites spread over 27 markets for news that includes both local newspaper and television sites. These markets were chosen because of their use in the study on cross-media ownership done for the FCC. The research includes cross-owned newspaper and television websites as well as independent stations and newsrooms (Milyo, 2007). In analyzing the data, I separate the results based on original medium, cross-medium ownership, market size, and affiliation. The sample includes very large and competitive markets, such as New York, NY, as well as very small markets, such as Quincy, IL.

Within each market I account for up to three television websites and the local newspaper website. If there is more than one local daily newspaper I include that as well. I look at three television sites in each market in order to include an affiliated station, a cross-owned station, and a station that is neither so that my data does not reflect only one type of station. For markets that have fewer than three local television or newspaper websites, I base the data on existing sites in the online market.

After its release and use by the FCC in determining their policies for the regulation of television ownership, Milyo's study methodology received criticism. This study's methodology accounts for those criticisms with several changes in the data collection process. Many of these criticisms are expressed in Goldstein et al.'s peer review of the Milyo study (Goldstein et al., 2007). Goldstein et al. critiques the timing of Milyo's data collection, saying that Milyo restricted his data collection to only late-evening local newscasts from television sources in comparing news content. This could have skewed his data because television news programming broadcasts at several times during the day, usually in morning shows, early evening shows and late night shows while print newspapers are almost solely distributed very early morning. This means that television news has developed a culture of constantly changing and updating its news stories throughout the course of the day, but newspapers newsrooms only release their stories in the morning.

This study creates a representative sample of data that avoids generating the same criticism about the timing of newspaper production by rotating the times of day at which I looked at sites. I use snapshots of the websites at different times of day. The first data was taken early in the morning, around the time when print stories go to press, and then each data set after that was recorded three hours later than the previous data set. Another criticism of Milyo is the criteria by

which he separates his distinction of local news versus national news, including state-level news in the local designation. To address this I separate state-level news from local and national news.

The analysis of websites uses a "constructed week" as the time frame. This "constructed week" method has been used in many other studies of media, such as Milyo's, in order to account for potential high-salience stories skewing the data set. Over a sample period of seven total weeks, I collected data of the sites every eight days. For example, the first data set was collected on Monday. The next week I gathered data on Tuesday, and so on. By waiting eight days between data sets, the final data set includes each day of the week. The large break between each individual data set enables the test to avoid a single prominent front-page news story skewing the data (i.e. one extremely salient national issue will not cause all of the story content data to focus on national news). This resulted in seven data sets.

I recorded data from the front page of the websites to focus the study on the website's main area of news presentation and the web page that audiences see most. Taking data from the front page reflects the viewer's first impression of the news website and keep the amount of data manageable. In order to ensure that all of the units of measurement are collected at the same time, I saved the front pages of websites at the target hour and then analyzed those pages after recording all 127 sites. Analyzing the pages after data collection instead of attempting to code for analysis during the target hour prevented the results from being skewed by an online front page story changing before I coded for its characteristics and also allowed me to re-check the data after sampling.

Hypotheses

The following list contains hypotheses taken from the sources mentioned in the literature review as well as my own beliefs about news websites based on characteristics of the original medium of news. The variables indicate the recording units and each variable are analyzed as a percentage across websites or a mean of a certain characteristic across websites. The results for each attribute are analyzed grouping different types of websites and varying sizes of markets to separate the analysis and reveal confounding variables. Affiliation, ownership, and other defining characteristics also factor into the analysis.

H1, *Updated Stories*: The stories on television websites will be more current and newspaper less so. This is because television stations are used to producing their content several times a day while newspapers print once a day. Additionally, more frequent updates on newspaper websites would undermine subscribership for their morning printed newspaper because the consumers will have already seen the stories online the day before. Variables: Breaking news headline (percentage), how long ago was the main breaking news story published (in hours) (mean, statistical notes included in appendix). This can be ascertained either on the front page near the article or by clicking on the article and looking at when it was published.

H2, *Story Level of Geographic Focus*: The level of geographic focus on stories will vary depending on the market and not the medium. Websites in larger markets will contain more national and international stories while smaller markets will contain more local stories. Additionally, affiliated television stations will include more national-level stories because they can more easily syndicate content from other network affiliates. This analysis will

define local stories as coverage of events originating in the media outlet's market and state stories as those outside the market but still inside the state. Likewise, national stories will be those covering news outside of the market within the country and international stories those outside the country. Variables: At what geographic level are the first five stories classified (percentage)?

H3, *Video*: Television websites will offer more streaming videos, imbedded videos and links to videos on their front page because these videos can be taken directly from their original video form. As the Boczkowski study discusses, some newspaper websites may have included videos because of competition forces from television within the market (Boczkowski, 2004). In addition, many cross-owned newspapers will support video because they can attain news video packages cheaply from their television partner. Variables: Presence of videos (percentage), number of links to videos (mean).

H4, *Text*: Newspaper websites will present more text stories and more photographs on their front page, mirroring the front pages of physical newspapers. This will also follow from the newspaper's desire to preserve its identity online. Variables: Presence of text stories (percentage), number of links to text stories (mean), presence of photographs (percentage), number of photographs (mean).

H5, *Feedback*: As Lin and Jeffres describe in their study, television websites will include more options for feedback through discussion forums and e-mails to writers and editors (Lin and Jeffres, 2001). This is because of local television's emphasis that the viewer matters. E-

mail allows the consumer to give the editor his opinion or feedback about an article or send a tip about a news story. Discussion forums reflect news shows that reply to consumer input and take on-air phone calls. Variables: Presence of link to send e-mail or link to discussion forum (percentage).

H6, *Comments*: Newspaper websites will have more options to directly comment on posted stories. This will replicate the traditional response of writing letters to the editor in newspapers and those letters showing up in a later issue. A study by Zeng shows that the differences in level of interactivity on newspaper websites depended largely on the size of the newspaper, so I expect to find interactivity on newspaper websites correlate with DMA rank (Zeng, 2006). Variables: Presence of links to comment on stories (percentage).

H7, *Continuation Links*: Newspaper websites will more frequently start a story and then link to the rest of the text article, much like the way a front page story will say, "Continued on page A4." Variables: Presence of links leading to the continuation of an article (percentage).

H8, *External Links*: Television websites will contain more links to outside sources and stories (i.e. not generated in their newsroom) because they are accustomed to including syndicated content on their broadcasts. Analysis of external links will also look at what the outside links take the user to. Variables: Presence of links to outside websites (percentage), number of links to outside websites (mean), what external sites the links direct the user to (percentage).

H9, *Brand Promotion*: Television will include more promotion plugs to watch the station's news show or channel. This is because the television stations frequently inject self promotion in their television content, reminding viewers to watch the morning, evening, or late-night newscast. Variables: Presence of promotional content (percentage), number of graphics or banners promoting the viewer to watch broadcast news content (mean).

H10, *Subscriptions*: Newspapers will more often have an option to subscribe to their online site. This will reflect the newspaper market in which people subscribe to a newspaper to be delivered to their house every day. Because many online newspapers are free, these options to subscribe may be as simple as an option to input an e-mail address. In addition, subscription options allow users to subscribe in a variety of ways, such as to an online edition, text alerts, e-mail newsletters, etc. Variables: Presence of links to subscribe to the website (percentage), what type of subscriptions the website offers (percentage).

H11, *Weather and Traffic*: Television sites will more often show the current and forecasted local weather and will show or link to local traffic because these are things that people watch local television to find out about. Variables: Presence of weather and traffic forecasts appearing on the front page (percentage). Are they shown as a graphic or description or both (percentage)?

H12, *Type of Layout*: Newspaper sites will have a more linear layout, with stories arranged in columns of text similar to the front page of a printed newspaper. Television sites, on the other hand, will have more separate boxes with graphics that link to stories. Variables: Linear

layout with columns of text stories or layout broken up into boxes and sidebars with links (percentage).

H13, *Citizen News*: Citizen news contributions are a recent entry to the field of news and their presence has increased tremendously with the movement of news to the internet. The news outlet will post content in different forms directly from citizen contributions to the station or newspaper. Variables: Presence of citizen news contribution (percentage).

H14, *Polls*: Polling is very important in the news world and with the jump to the internet news outlets can conduct basic opinion polls on the front page of their websites that ask viewers questions pertaining to salient news stories. Variables: Presence of poll (percentage).

Table of Hypotheses

#	Hypothesis	Variables	Prediction
1	Updated Stories	Most recent story Breaking news headline	• More recent stories and breaking news on TV
2	Story Geographic Scope	Scope of first five stories as either local, state, national, or international	• No variance by medium • Larger story scope as market size increases • Larger scope for network and cable affiliates
3	Video	Presence of video player Average number of links to video stories	• Higher presence of video players and links to video on TV websites • More cross-owned newspaper websites with video

4	Text	Presence of text story and photographs Number of links to text stories	• Higher presence of text stories, photographs and text links on newspaper websites
5	Feedback	Presence of or link to e-mail or discussion forums	• More television sites with feedback options
6	Comments	Presence of links to comment on stories	• More newspaper sites with story comment options
7	Continuation Links	Presence of continuation links	• Higher percentage of newspaper sites with continuation links
8	External Links	Presence of external links Average number of external links	• More television sites with external links • Higher average number of external links on nationally affiliated sites
9	Brand Promotion	Presence of promotional content Number of content promotion items	• Higher percentage of television sites with promotions
10	Subscriptions	Presence of subscription options What are the different options to subscribe	• Higher percentage of newspaper sites with option to subscribe
11	Weather and Traffic	Presence of weather or traffic forecasts Format of forecast	• Higher percentage of television websites with weather and traffic forecasts • Descriptions for newspaper sites and graphics for television sites

12	Layout	Type of website layout, linear or boxed	• More newspaper sites with linear layouts • More television sites with boxed layouts
13	Citizen News	Presence of citizen news	• Neither medium has more than 10% of sites with citizen news
14	Polls	Presence of poll	• Neither medium has more than 20% of sites with citizen news

The move from local television news or local newspapers to online websites affects everyone who wants to find out about what is happening in their local community and in the world at large and how that news affects them. As a new generation of news consumers finds its news immediately and interactively online, the model for traditional media outlets to convey story content is falling apart. Bloggers, aggregators, search providers, community sites and other nontraditional news outlets now compete in the online news market. The ability for local newspapers and local television stations to reach out to consumers and maintain the market for their local news on the internet will be crucial in the future. Thus, this study will identify the variables that separate the websites of local newspapers and broadcast outlets as they move from their traditional mediums to their online websites. This will be important in seeing how their entry into a market in which they can both compete has changed each medium from its traditional form. These differences and similarities will influence how the next generation of citizens receives its news.
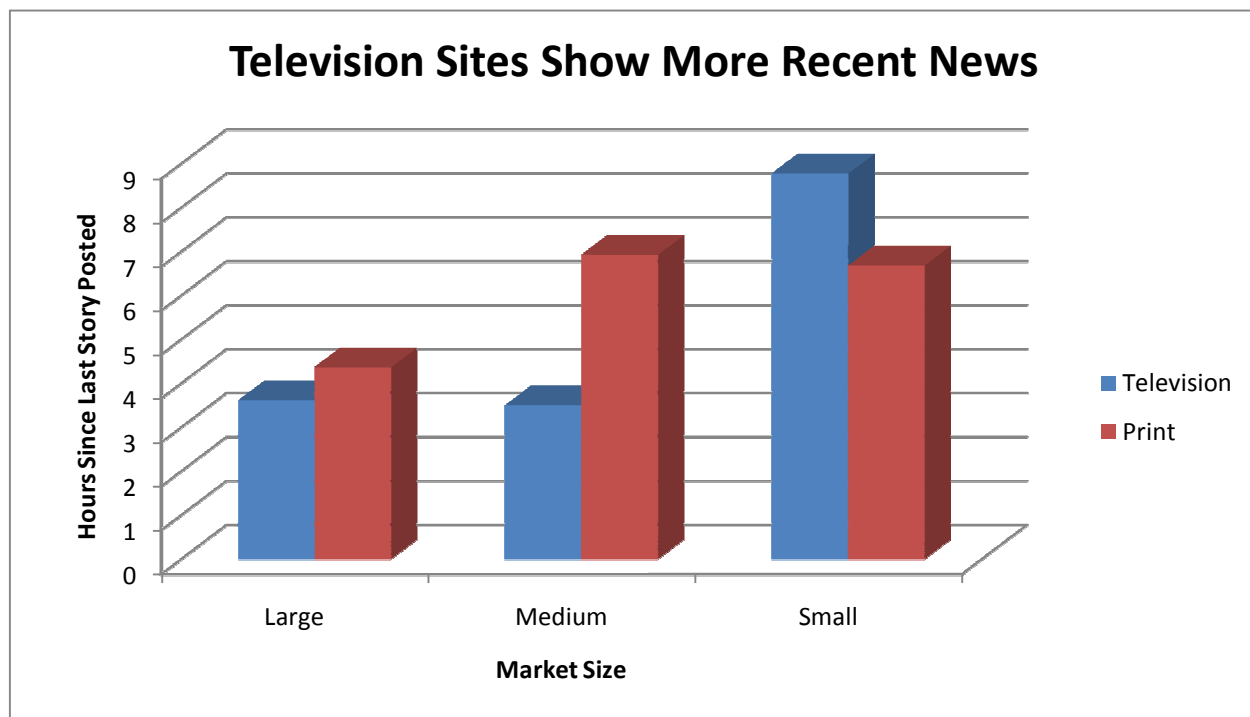
The Unique Attributes of News Websites

Does competition between news websites cause them to vary aspects of their content and presentation? Many different aspects make up a website, and I look at each aspect as well as the sum of all aspects together. In this section, I address the findings related to each hypothesis in turn as the variables are influenced by original medium, market size, national affiliation and cross ownership. If the analysis does not mention one of these influences, assume it does not have a notable impact.

Breaking News! Get it while it's hot! (H1)

Inside a U.S. media newsroom, reporters and editors sit at their desks, typing out stories for tomorrow's morning edition or piecing together soundbyte clips for a "special report at six." The central focus of the newsroom, however, is the news desk, where newsmakers learn of breaking stories through telephone call-ins, police radios and following the competition's coverage of stories. Because people want to read or watch breaking news as soon as it happens, the prime focus of news desks is to receive, digest and present news as quickly as possible.

The timeliness of posting online news stories is therefore an important measure of a media outlet's commitment to its website. Comparing the two traditional mediums, the two sources have relatively similar update times on their websites. Differentiating websites by market size, however, shows that the update times for each original medium vary depending on the size of their market.

Television Sites Show More Recent News

Hours Since Last Story Posted (y-axis: 0–9)

Market Size categories: Large, Medium, Small

Legend: ■ Television ■ Print

Market Size

Stories on television websites are updated more frequently than stories on print websites in large and medium sized markets. Conversely, small market television stations update their websites less frequently than do small market newspapers. While the data agree with my hypothesis in the larger markets, the hypothesis does not hold up in smaller markets. This could be due to some of the small market television stations lacking resources and staff members to post their television content online quickly. At newspaper companies, the staff size traditionally equals 1 reporter per 1,000 subscribers in circulation but at television stations the staff size drops drastically as market size decreases.

Television Websites Post More News Headlines
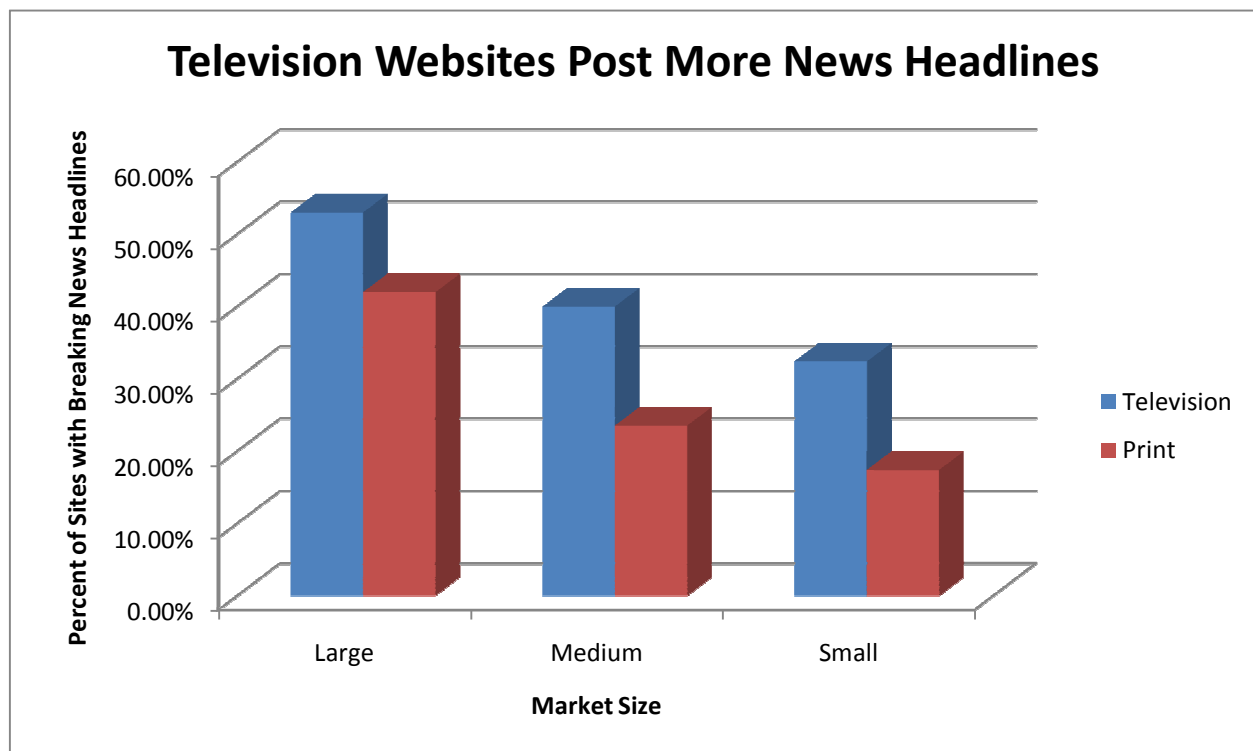
News companies also show breaking news online through breaking news headlines or banners. These banners vary depending on medium and market size. Ten percent more television sites have breaking news headlines than do print sites, reflecting the importance broadcast news places on immediacy and informing the viewer that the news has just happened. Both mediums in larger markets also tend to have more sites with breaking news headers, likely caused by the occurrence of more newsworthy events and a greater number of reporters.

Another way to measure breaking news headlines on websites would be by ownership, because cross-owned newspaper websites may reflect their television partner's emphasis on breaking news. Further dissecting print websites into those cross-owned with a broadcast station and those that are not cross-owned demonstrates that cross-media ownership across mediums does not produce more sites with breaking news headlines. This lack of correlation implies that

the emphasis on timeliness through breaking news stories is not shared across cross-owned partners in an online setting.

Look what's happening in New York! (H2)

Have you ever wondered why news editors choose a smaller, local story about a gas station robbery instead of a national story about alleged senate corruption? Dissecting story "scope" by several different factors, important trends appear. I hypothesized that story content varies depending on market size but not original medium. In addition, I hypothesized that television websites and their cross-owned partner newspaper websites carry more national and international stories than their non-cross owned counterparts.

Story Geographic Scope Differs Slightly by Original Medium

A 3D bar chart with y-axis labeled "Percentage of Stories With Level of Scope" ranging from 0.00% to 80.00% in 20.00% increments, and x-axis labeled "Story Geographic Scope" with categories Local, State, National, and International. TV (blue) and Print (red) series are shown. Local has the highest values near 75–80%; State, National, and International are all below 20%.

Looking at story scope by original medium, television and print websites have remarkably similar scope. Print websites present a 4.5% higher percent of national stories, while television stations cover 5.5% more local stories.

Because the story scopes of each medium's websites are so similar when all the sources are aggregated, separation by market size helps to reveal differences between the mediums. The graph below shows a noticeable change in the story scope of websites as market size changes. Print news sites in large and medium sized markets have lower percentages of local stories than television sites by 4.5% and 15% respectively. These differences echo television news' tendency to show local news and live news that its reporters may cover directly. This tendency is reversed for online newspapers, as print sites post 6% to 8% more national stories than television sites in large and medium markets.
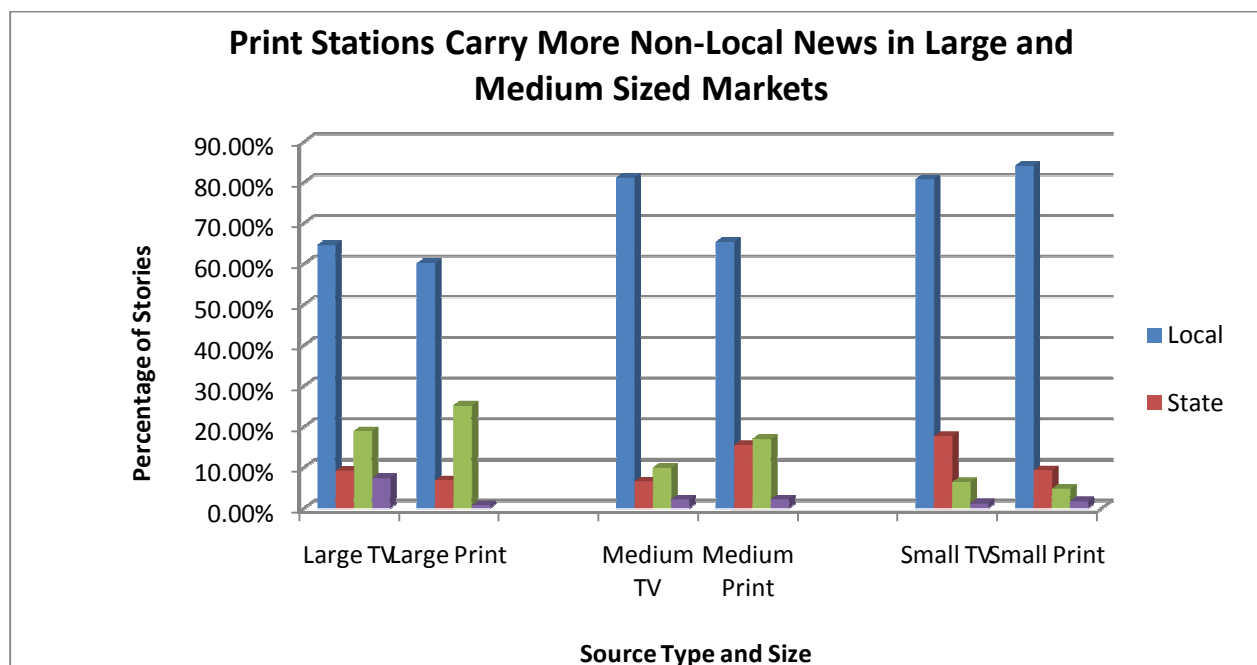
Small markets show opposite trends but without high significance. Television websites place 4% fewer local stories and the same number of national stories on their websites as print websites. This change in scope trend when looking at smaller markets could be a result of affiliation (discussed below), in that television affiliates use fewer of their own local stories because of small staff size and instead show more state and national stories from their affiliated partners.

These findings also refute the argument put forward by Cooper specifically concerning local news stations (Cooper, 2006). He points out that internet news tends to expand from local stories to national stories, but my findings show that for local news stations, websites still tend to cover mostly local news stories. In each market size, more than half of the stories cover local news, showing that local news still plays a large role on the internet.

Unaffiliated Sites Show More Local Stories

A bar chart with x-axis labeled "Affiliate" showing ABC, NBC, CBS, CW, Fox, Independent, and y-axis labeled "Story Percentage" ranging from 0.00% to 100.00%. Legend categories: Local, State, National, International.
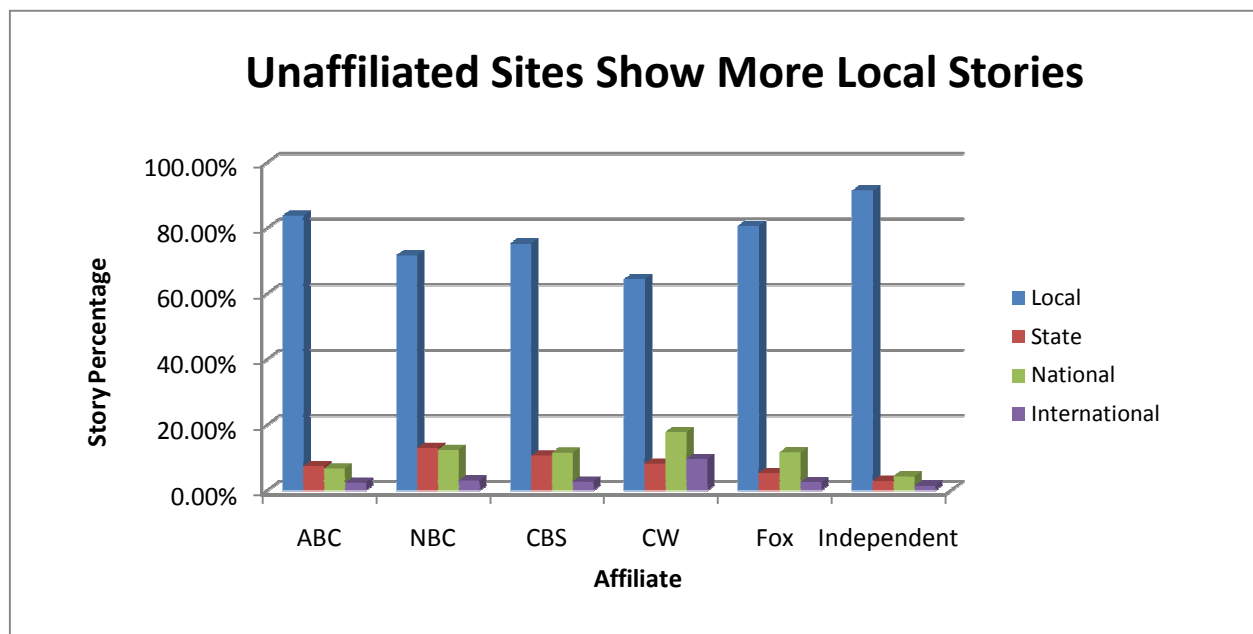
A look at story scope when separated by whether stations are affiliated and their network affiliation reveals that while being a nationally affiliated station impacts the scope of stories on the website, the networks do not necessarily determine story scope. Television stations with national affiliations are from 8% to 20% more likely to show non-local news as their front-page news stories. Some networks, such as NBC, CBS and the CW (which is partially owned by CBS) tend to show national and state level stories on their sites, while ABC and FOX include more local stories. On the whole, however, specific network affiliation does not appear to hugey impact story scope.

(Note: In coding for story geographic scope, many websites used boxes with text or video feeds that directly linked stories from another website. This caused a small number of sites to display current stories instead of those that the page showed during the data collection period. Because this only occurred on a small number of sites, the story scope on those websites were not included in the analysis.)

Why won't this video load?! (H3)

Websites offering streaming or imbedded video stories on their front page attempt to appeal to the viewer's senses and take the viewer straight to the action. Video stories take up as much room as the size of the website's video player and can confer large amounts of information. The only limitation on use of video is the viewer's connection speed, which can affect video loading speed.

Presence of Video Varies by Market Size
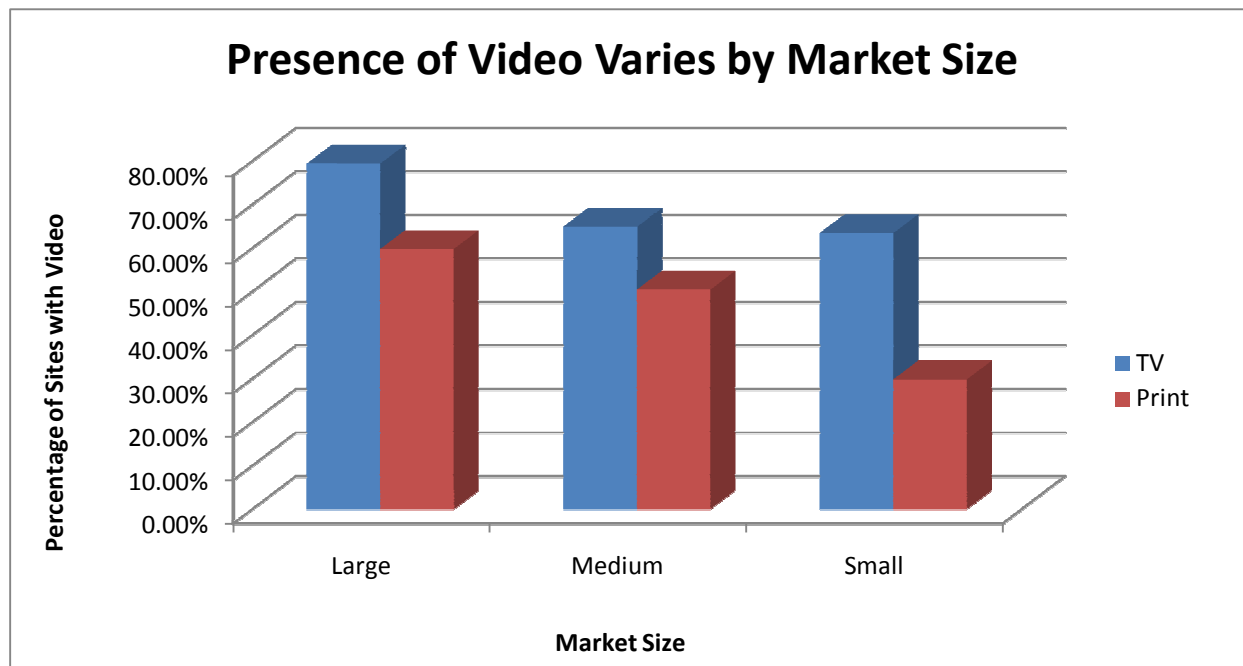
Traditional television news for the last 70 years has relied on video stories to show its reader clips of events reported, voiced-over by a journalist. Because television has always used videos, I hypothesized that video players will be much more common on television news sites than newspaper sites. The data support this, as videos appear on over 24% more television sites than newspaper sites. Further separating the data by market size, larger markets websites more often contain videos than websites in medium and smaller-sized markets.

Cross-Ownership With TV Does Not Increase Video on Print Sites

Percentage of Print Sites with Video

60.00%	
40.00%	
20.00%	
0.00%	

Cross-Owned   Not Cross-Owned
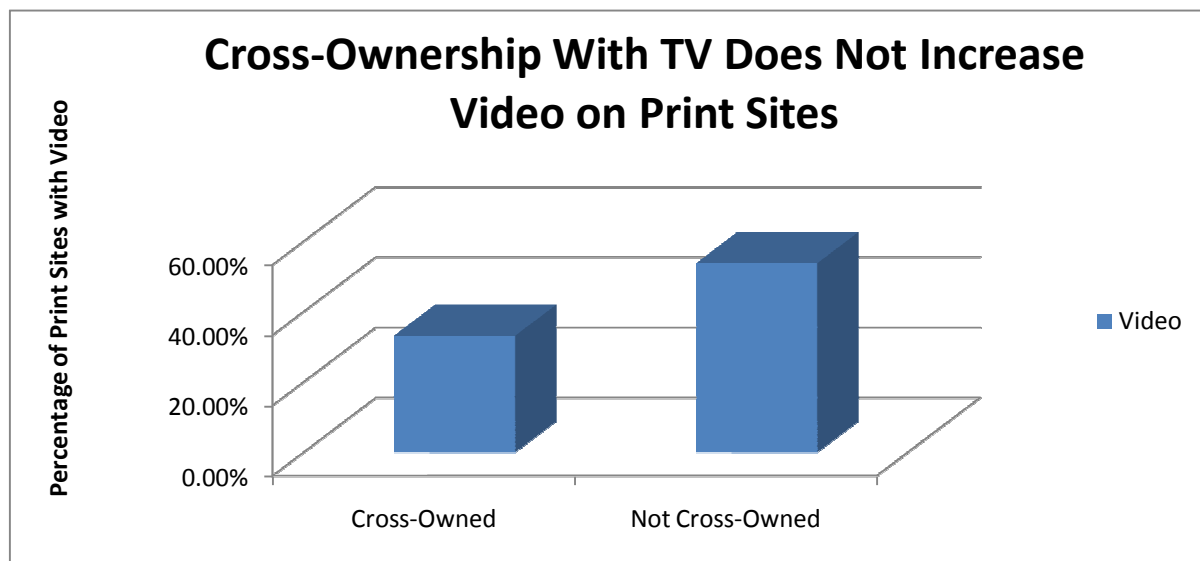
■ Video

Presentation of videos on newspaper websites could result from two explanations: either that newspapers in larger markets are partnering with television sites to show video or that they shoot their own video to compete with television news online. The above graph shows that not only do independent print sites have video players more frequently than cross-owned print sites, but that they also offer video more than 50% of the time. This indicates that cross-owned news sites have, in the face of the competition, realized that they need to show video to keep up with television websites.

Another technique of showing video to viewers is by linking video content from other pages on the news website. Separating numbers of links by market size reveals that across all mediums television sites offer close to double the number of video links as print sites offer. The number of video links coincides with the presence of a video player on the front page and agrees with the above assertion that television sites present more videos.

Average Video Links Vary by Medium

A bar chart titled "Average Video Links Vary by Medium" showing Video Links (y-axis, 0 to 12) by Market Size (x-axis: Large, Medium, Small). Two series: TV (blue) and Print (red).

- Large: TV ≈ 9, Print ≈ 5.5
- Medium: TV ≈ 11.5, Print ≈ 4
- Small: TV ≈ 10.5, Print ≈ 4.5
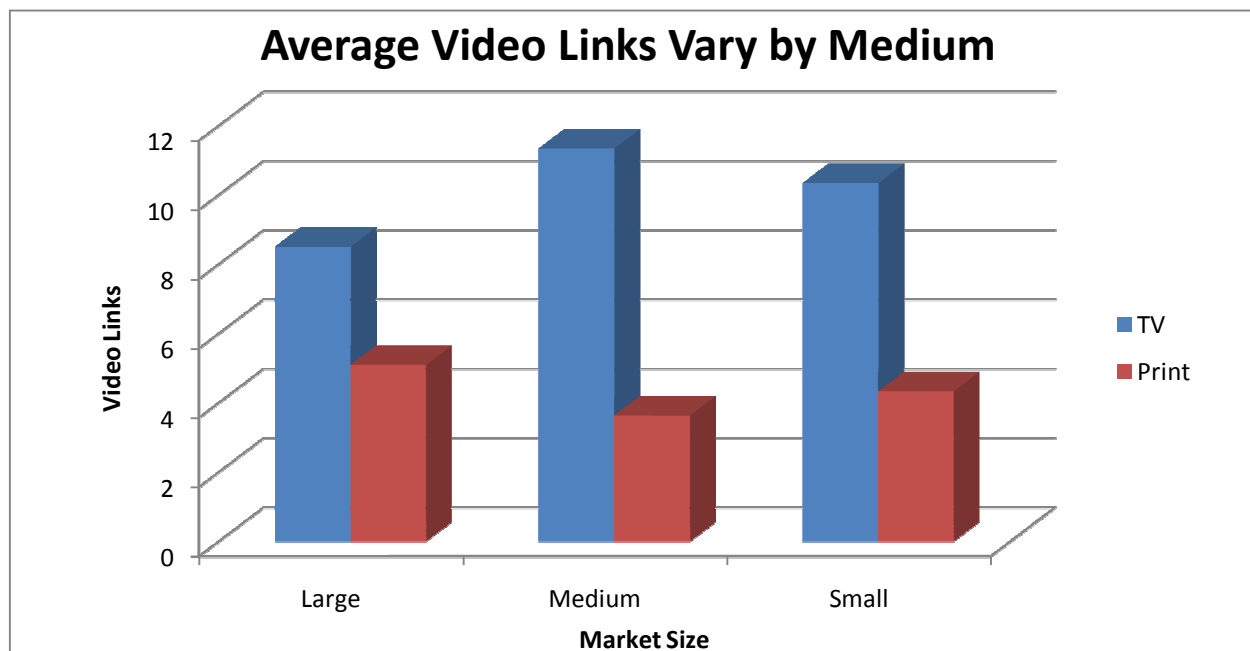
By separating the print websites into those that are cross-owned with television sites and those that are not cross-owned, cross-medium ownership does not seem to affect the presence of links. Independent newspapers strive to include links to videos on their website.

Text Stories (H4)

In contrast to video stories, text stories are simple, small files to place online but which take up a large space on the page. Readers can read the text at their own pace and do not require high connection speeds to access the news material. Text stories represent the influence of the newspaper market on websites. Newspapers have always used text and pictures to report the news, and so their move to the internet requires very little content adaptation. Television stations, on the other hand, do not traditionally write text stories and must take an extra step to place text stories online.

Text Stories Vary by Medium and Market Size

A bar chart titled "Text Stories Vary by Medium and Market Size" with the y-axis labeled "Percentage of Sites with Text Stories" ranging from 0.00% to 40.00%, and the x-axis labeled "Website Type and Size" with categories Large, Medium, and Small. The legend shows TV (blue) and Print (red).
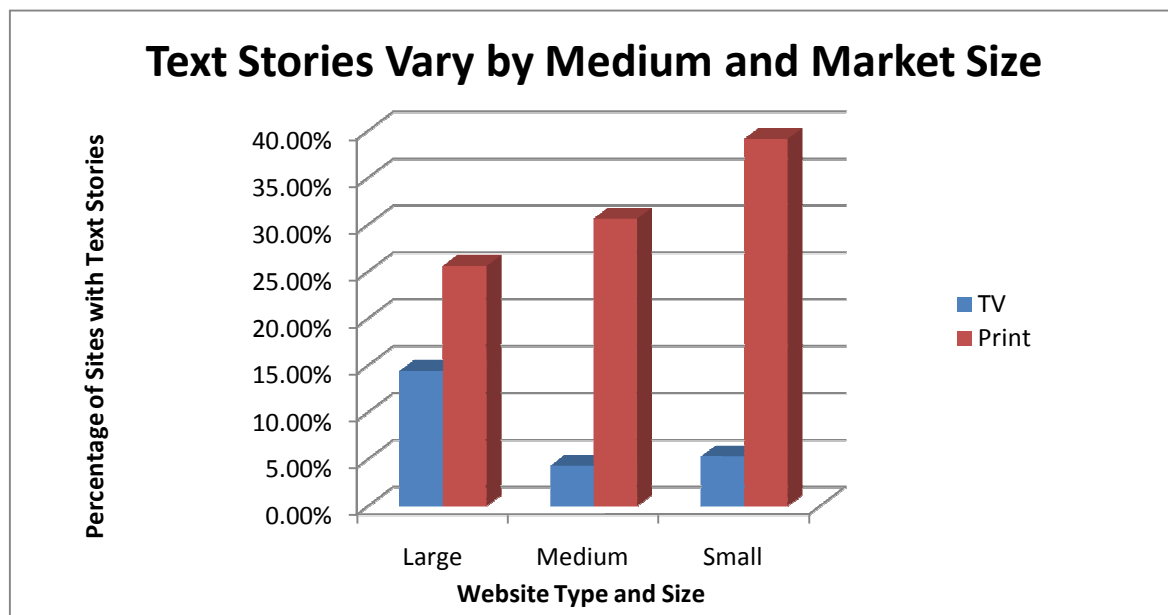
As hypothesized, text stories appear primarily on websites run by newspaper companies. At every market size, newspaper sites are far more likely to have text stories than for television sites show to text stories. The ease of reposting an article from a newspaper to the front page of the site likely explains this difference.

When one differentiates front-page text stories by market size, an interesting trend emerges. Many more large-market television websites include text stories on their front page than do those in medium and small-sized markets, while fewer print news websites use front page text stories as market size increases. In both instances, the two mediums in the larger markets are more similar to each other than in smaller markets. Televisions stations, now in the same market as newspapers, add front-page stories and newspapers respond in kind by reducing the presence of text stories to mimic television station websites. This trend could indicate that paper and television news are competing and changing their sites to do so, as each may be trying to incorporate what it perceives to be the strength of the other.

Text Stories Increase with Print Cross-Ownership
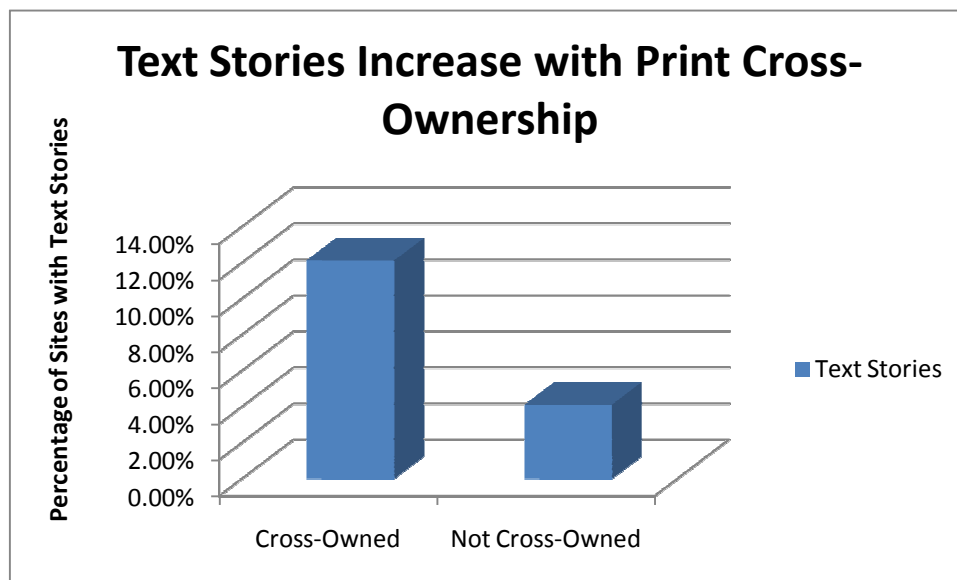
With respect to cross-medium ownership, television stations partnered with newspapers are close to three times as likely to post text stories on their website's front page as those without newspaper partners. This difference is meaningful in that it could indicate how competition has spurred mediums that are jointly owned to contribute material to each other's site. Television sites may incorporate text because the accessibility of text stories through their smaller file size appeals to site visitors without fast internet connections.

Links to Text Stories by Market Size
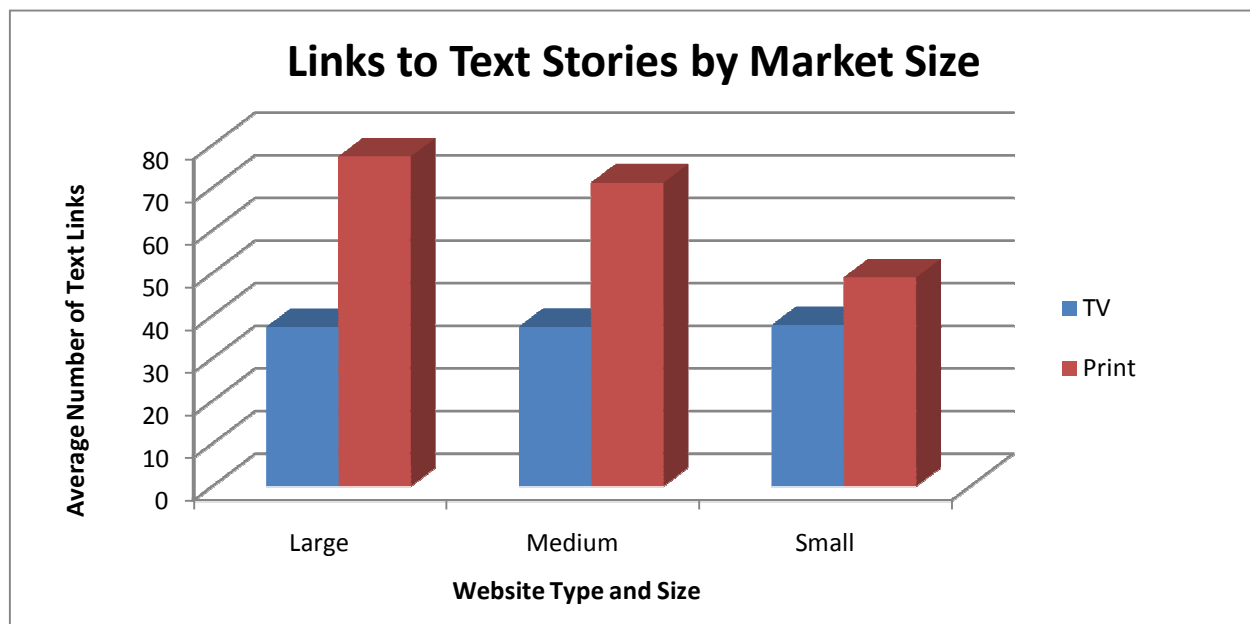
Linking to text stories from the front page demonstrates how a news provider envisions its website. An inundation of links to text stories from the front page barrages the viewer with information and offers the viewer choice in what he wants to look at, but also gives him so many stories that he may be overwhelmed. Conversely, very few links gives the viewer less choice, but puts more emphasis that the links are updated and important.

The consistent means and relatively small standard deviations in number of text story links across television markets shows that television stations largely present a steady number of story links. Print sites, on the other hand, show more story links as market size increases. This could result from the larger newspaper companies processing more stories through their newsroom each day or larger markets with a more heterogeneous audience, therefore giving them more options.

As the methodology section reflects, I had intended to discuss photographs on the websites' front pages, but found coding for photographs in the front pages I saved filled with too

many errors and ambiguities. Pictures would change locations or appear on one version of a page but disappear on another version of the page. In addition, advertisements and portraits sometimes look identical to news photographs, and coding to differentiate the two was far too difficult to lead to meaningful data.

Let's discuss this! (H5)
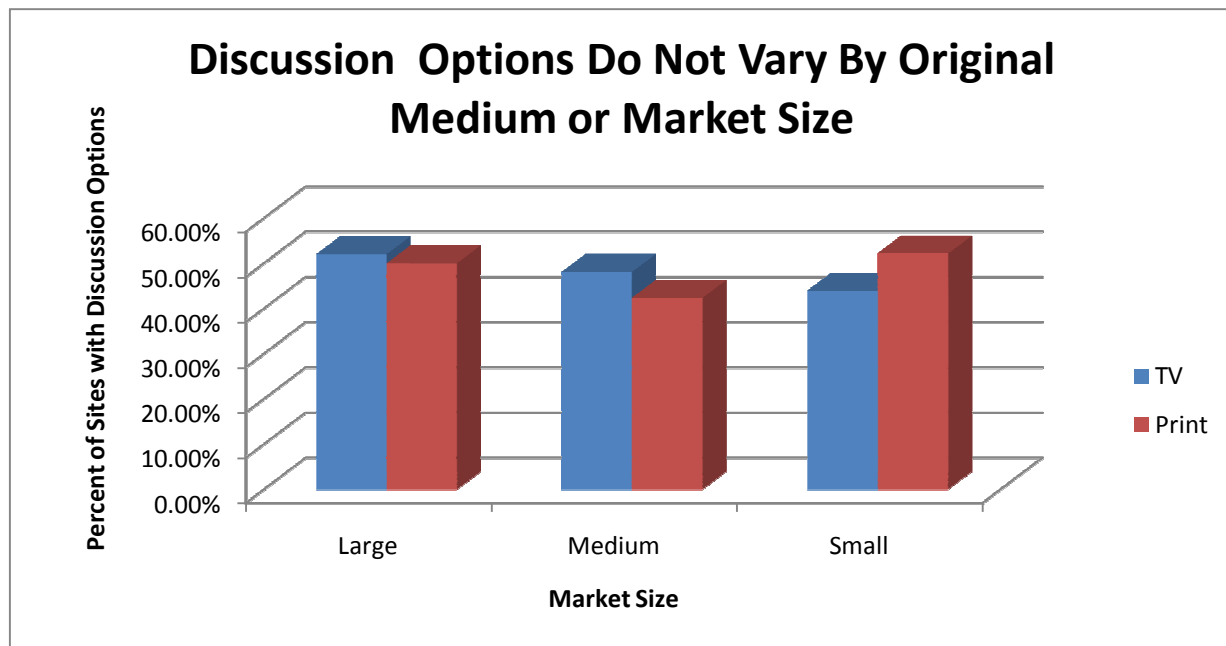
Discussion of news remains an integral part of television news production. Much of television news is driven by a host who includes his own input in the news report. News websites extend this feature by allowing site visitors to join the conversation by asking questions and injecting their opinions. Presence of discussion options and viewer forums show very little difference between websites when observing the influence of original medium or market size. In contrast to the study by Lin and Jeffres that pointed to television websites as more inclusive of

discussions, this study shows nearly as many newspaper websites offering discussion as do television sites (Lin and Jeffres, 2001).

Cross-Ownership Affects Discussion Options on Print Sites

A bar chart titled "Cross-Ownership Affects Discussion Options on Print Sites." The vertical axis is labeled "Percent of Sites with Discussion Options" ranging from 0.00% to 60.00% in 10.00% increments. The horizontal axis shows two categories: "Cross-Owned" and "Not Cross-Owned." A legend indicates the series is "Print." The Cross-Owned bar reaches approximately 54% and the Not Cross-Owned bar reaches approximately 39%.

One explanation for the similarity between sites concerning discussion options could be that, as shown above, cross-owned newspapers have a 15% higher chance of posting forums on their website than do independent newspapers. Newspaper newsrooms may be taking a cue from their television partners and change their site to involve the reader in a way that they cannot do in their print edition. While ownership may explain some of the similarity between mediums in adopting discussion forums, the 39% of independent newspapers with discussion forums on their websites is a large percentage and possibly indicates that newspapers on the whole are gauging the local news competition in the online setting and attempting to offer a similar product. An analysis of the average number of links to discussion forums produces similar results.

Dear Editor: (H6)

Story comments, unlike discussion forums, reflect the influence of newspapers on internet news because they replicate the mechanism of writing letters to the editor. They create a framework in which readers and viewers respond to the story being reported. Comments are separate from discussion forums because they make stories the focus of the audience's input, instead of making the topic of discussion the central hub.
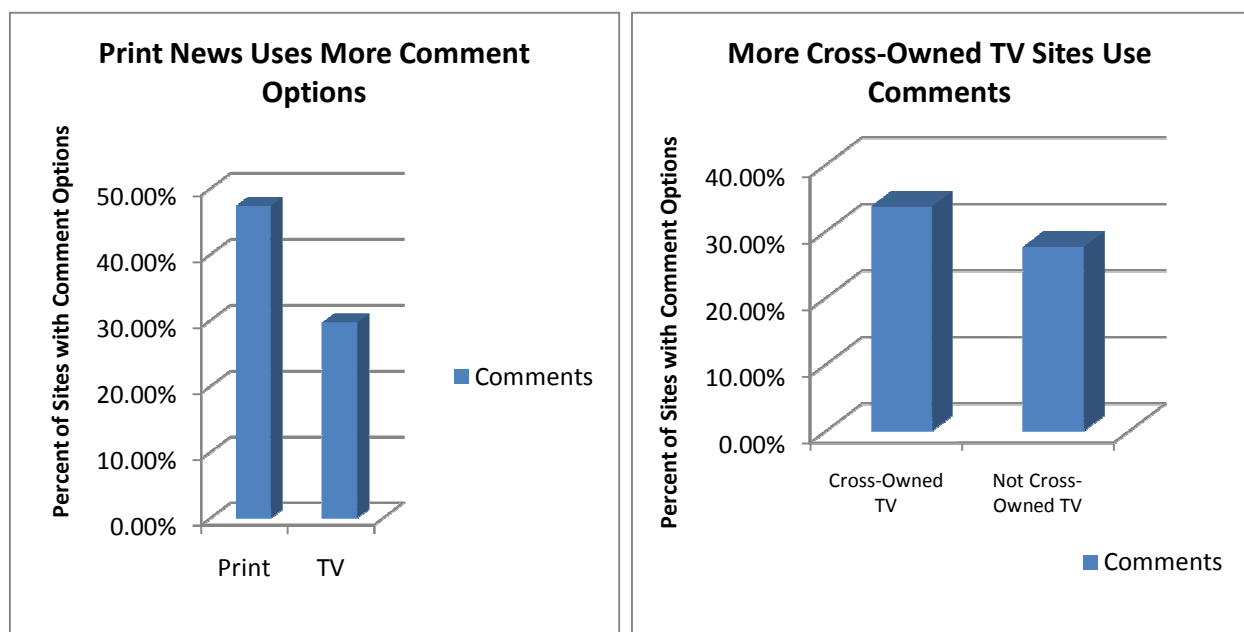
The print medium remains the strongest proponent of story comments with 17% more newspaper sites offering the option to comment than broadcast sites displaying comment options. In addition, comment options on television sites appear more often on television sites cross-owned with newspaper sites. Partnered television sites can build on their newspaper's strength by including user input on stories.

[Click Here to Read More] (H7)

I initially hypothesized that specific article continuation links on websites such as "read more" and "full story" were a relic of newspapers. Print editors have traditionally started several stories on the front page of their newspaper and directed the reader to a later page to finish browsing those stories. Internet sites do not require such specific directions, because a user can simply click on the story's title and be linked to a separate page with the full story.

Continuation Links Are More Common on Print Websites

Percent of Sites with Continuation Links

- 36.00%
- 34.00%
- 32.00%
- 30.00%
- 28.00%

TV   Print

■ Continuation Links
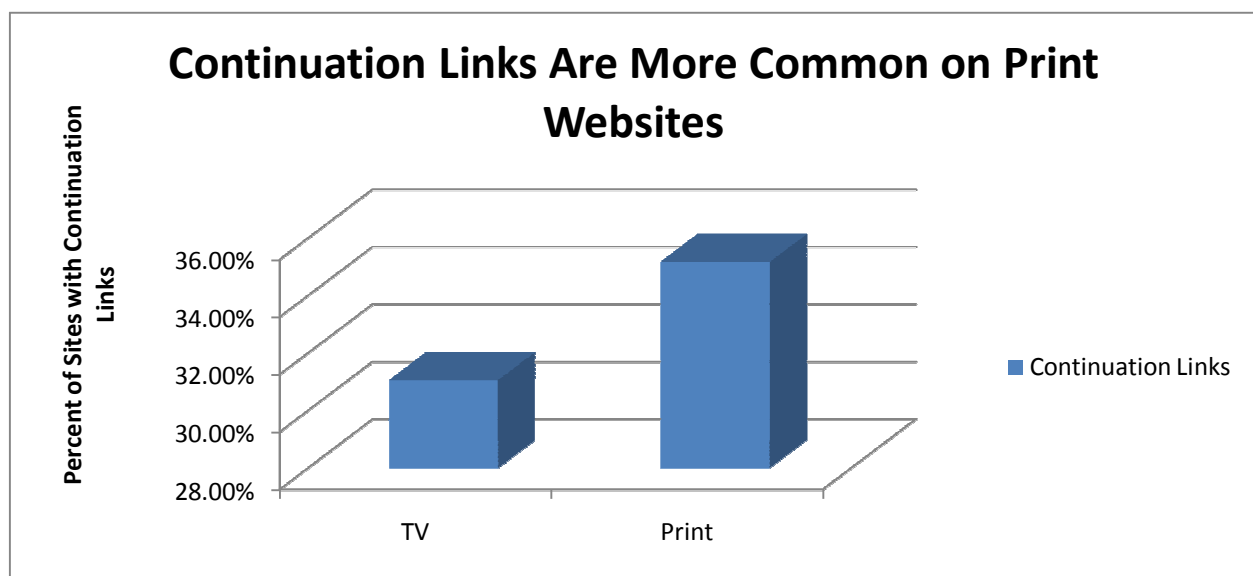
Newspaper websites, however, may be reversing this trend. The remarkably similar percentages of continuation link presence, 31% for television sites and 35% for newspaper sites, show that the two types of sites are trying to offer this capability to their visitors.

Continuation Links on Print Sites Vary with Market Size

Percent of Sites with Continuation Links

60.00%	
50.00%	
40.00%	
30.00%	
20.00%	
10.00%	
0.00%	

Large   Medium   Small

Market Size

■ Print Sites
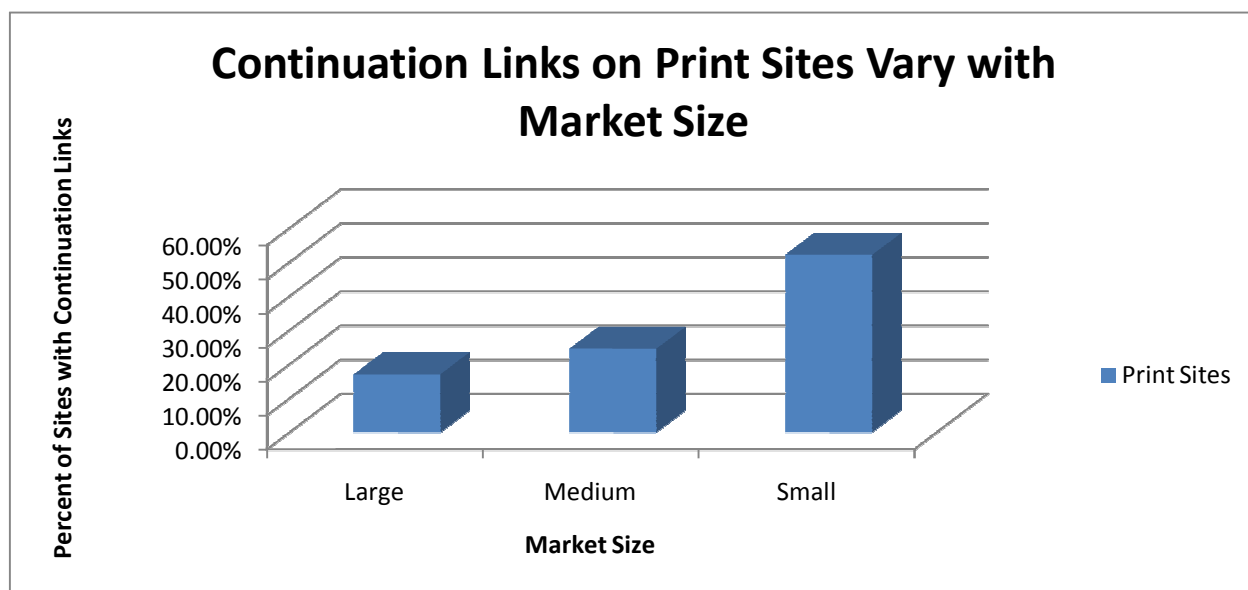
Separation of newspaper websites by market size reveals that larger markets, and likely those facing steeper competition for viewers, are removing the influence of their print edition on how readers are directed through the site. Conversely, as market size decreases, local newspapers may be experiencing less competitive pressure to alter their traditional format of linking to continued stories.

[Click here for the AP Story] (H8)

Easily linking to external news websites or stories from other producers is an option unique to the internet. Website creators can aggregate links from the Associated Press, launch readers to their twitter page to see brand-new content or bring in stories from affiliated and partnered websites. The only comparable ability to link news generated from other sources traces back to television sites airing stories produced by an affiliate.

Both TV and Print Carry External Links
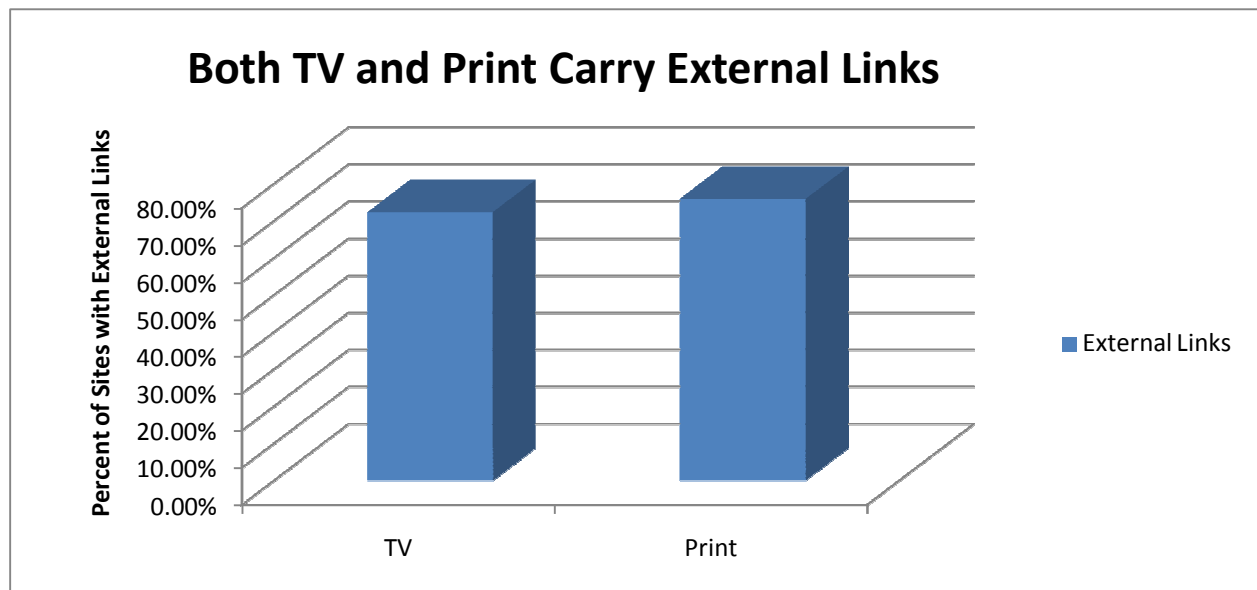
As the graph above shows, news sites from both sources have embraced linking to external websites. Well over 70% of websites from each original medium post external links and the difference between the two varies only slightly, with print websites linking to 3% more sites. In terms of where the links lead, external sites range from straight text stories, to videos, to Google search.

Cross-Owned Sites Link More Externally

Nationally Affiliated Sites Use More External Links

Percent of Sites with External Links

100.00%
80.00%
60.00%
40.00%
20.00%
0.00%

ABC   CBS   NBC   CW   Fox   Independent

National Affiliation
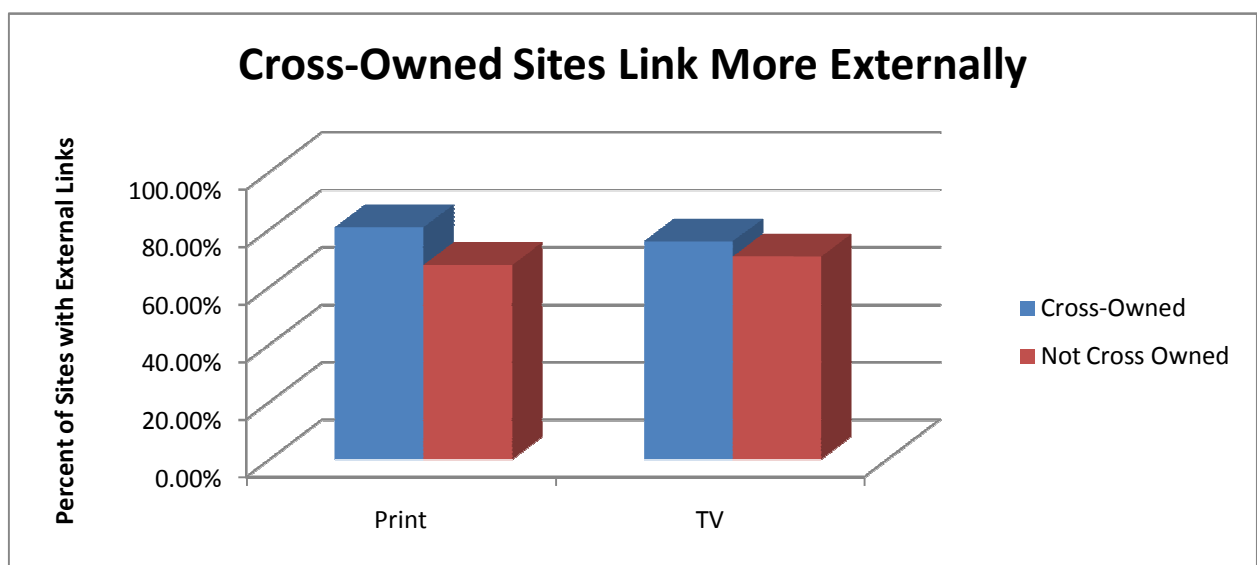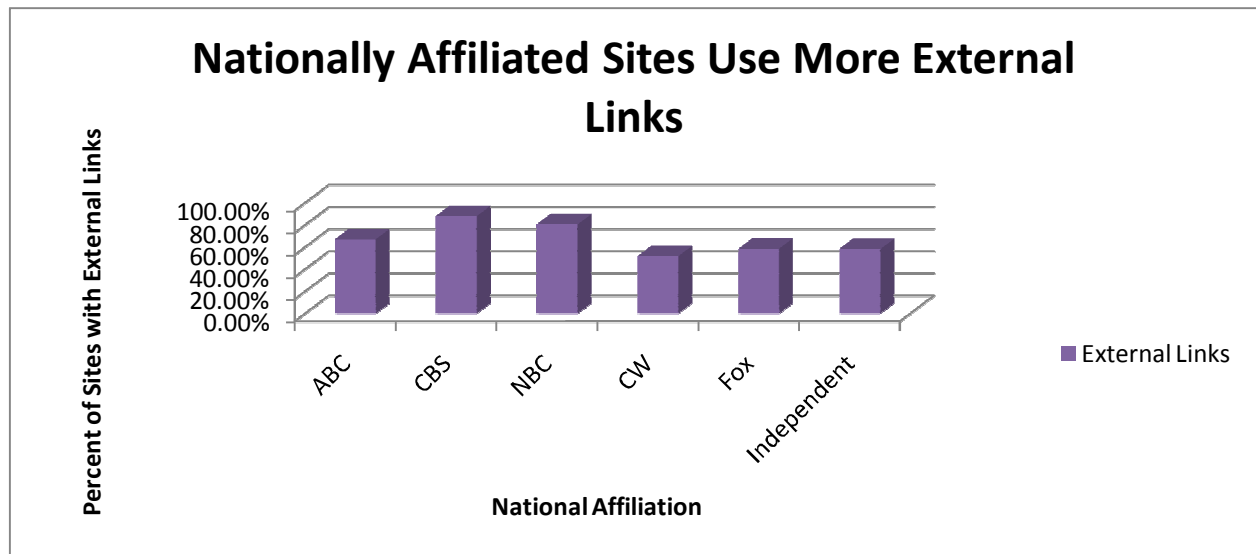
■ External Links

Ownership and affiliation both play a role in whether a site links externally or not. Cross-owned sites in both television and print web markets have a much higher likelihood of linking to external websites. This could stem from their experience with sharing news stories. The same is true with affiliation, as 74% of nationally affiliated sites have external links and only 58% of independent sites have outside links. As illustrated in the graph above, certain networks such as CBS and NBC link externally on nearly every affiliate's website.

What do they link to? (H8)

TV and Print Link to Different Types of Sites
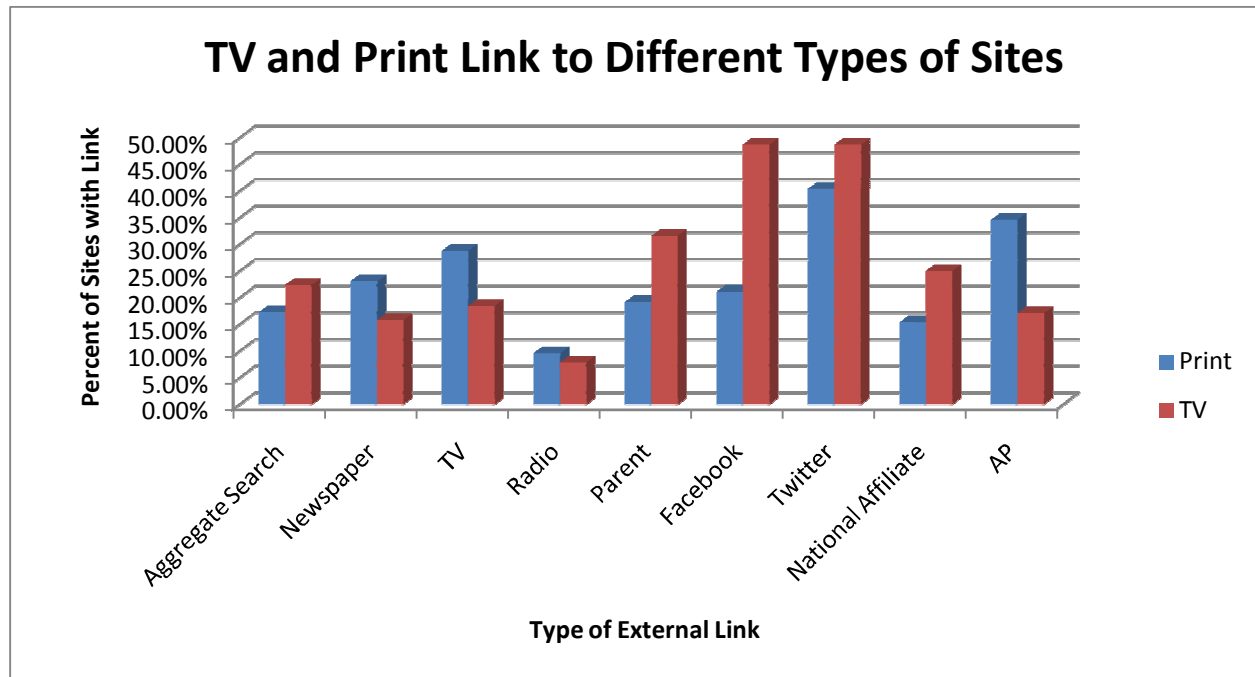
Newspaper and broadcast websites link to different types of sites. Print sites tend to link to Associated Press stories, other newspapers and their television partners. Conversely, television sites link more often to twitter, facebook, their national affiliate, and their parent (owner's) website. That television sites link to their national affitilate's website, such as www.cbs.com, follows from their affiliation ties, while newspapers traditionally do not carry the same national brand that networks like ABC and CBS do. On the other hand, more-frequent linking from newspaper websites to the AP and other television and newspaper sites could be a sign that newspapers are having to rely more heavily on those sources to compensate for the shrinking number of their own reporters.

Tune in at six with our award-winning news team for exclusive coverage! (H9)

Television stations produce promotional content as a necessary part of their business. In order to attract as many viewers as possible to watch their shows, television programs constantly instruct viewers what their shows are, which show is having an hour-long special this week, why you should tune into the big story on the evening news and how they are always the first to report stories to you, the viewer.

Newspapers rely much less heavily on promotion to produce revenue. They do not have to entice readers into reading their paper on a daily basis; readers are currently willing to pre-pay for the news through monthly or annual subscriptions! This model is changing, however, but that lies outside the scope of this study.
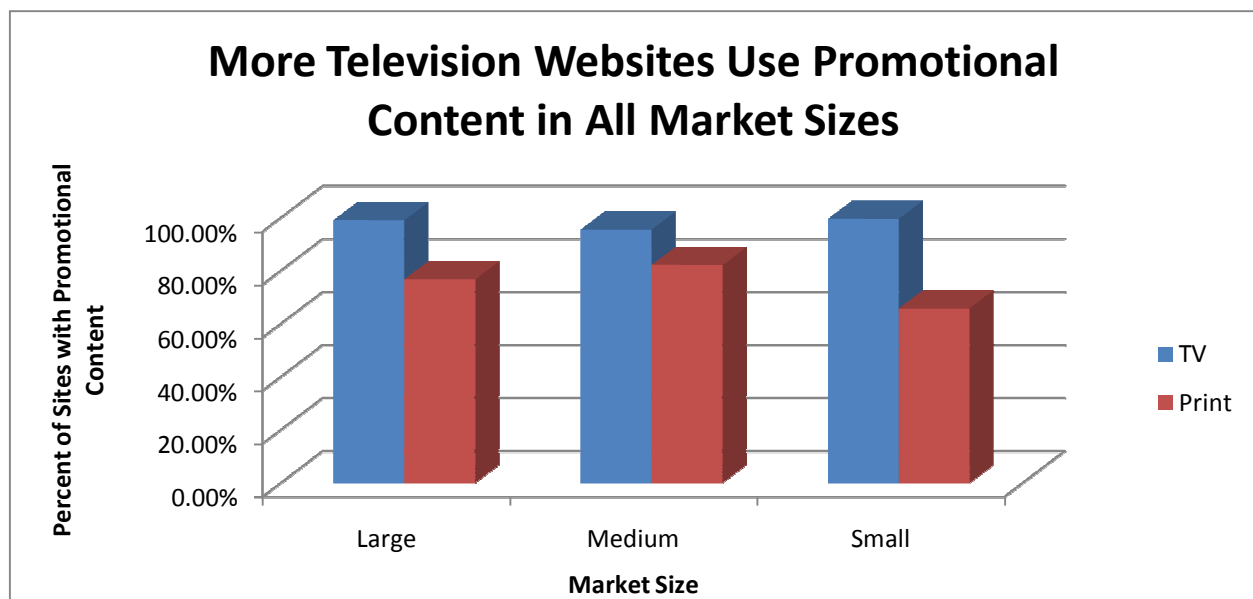
As hypothesized, almost every television website has promotional content (98%), but print websites are not too far behind. Close to 75% of newspaper sites carry promotional content, and in large and medium-sized markets the gap between television and print websites is smaller.

Larger markets may experience more competition and therefore trigger website editors in these markets to generate more hype for their brand and content.

TV Sites Present More Promotional Content

Average Number of Promotional Items vs. Market Size (Large, Medium, Small) for TV and Print.
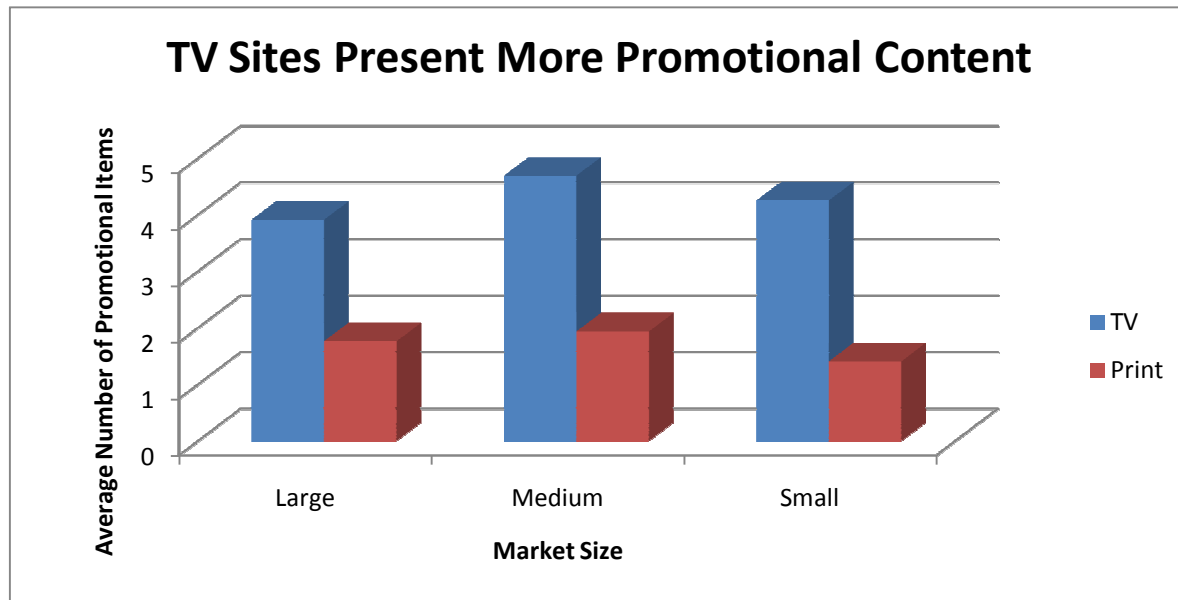
The amount of content promotion heavily favors television news websites. While print pages present on average one or two promotion graphics, television sites incorporate four to five promotions. This is because television markets can carry their traditional emphasis on station promotion to their online material. Newspapers, on the other hand, have not changed their websites enough to match the promotion levels of television stations.

Sign up for breaking news alerts by e-mail, mobile or text! (H10)

In contrast to television websites promoting their content, offering the ability to subscribe to news stems chiefly from newspapers. Newspaper companies traditionally based some of their revenue through a subscription model by selling their print edition, but this model changed as soon they posted content online. Many newspaper companies did not initially charge users for

their web editions, giving users the impression that online news is free to consume. After more online newspapers adopted the free-content model, users have changed their preferences to free news content, meaning that websites with free news take up most of the online news market.

More Print Sites Offer Subscriptions
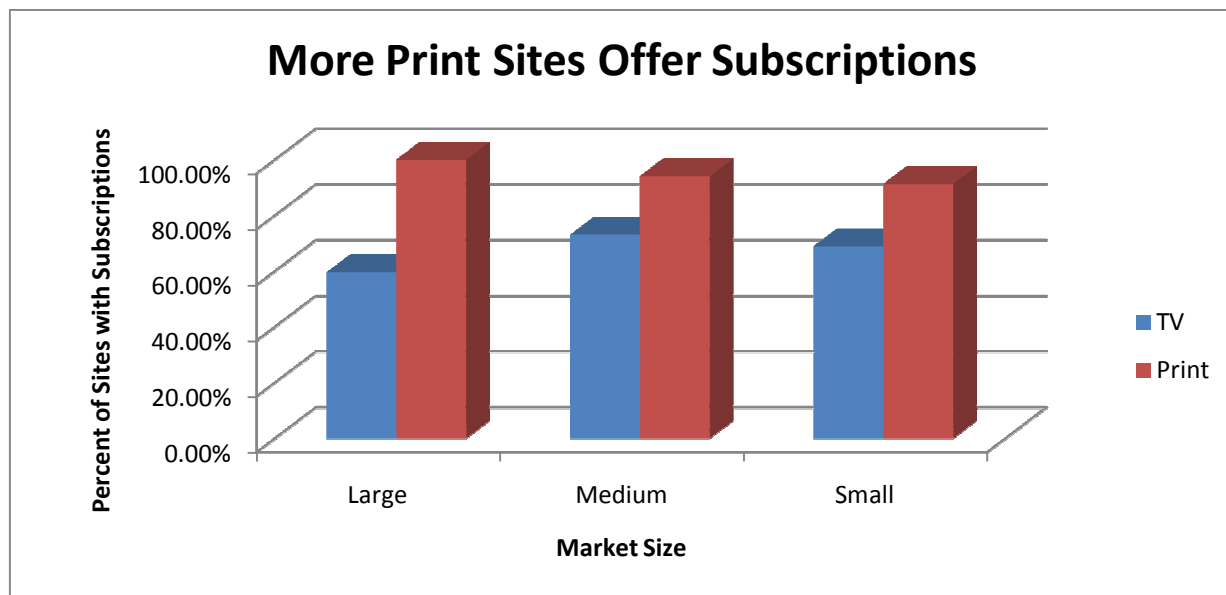
News websites invite users to sign up for subscriptions to e-mail newsletters and online editions and for text and e-mail breaking stories. I hypothesized that print websites would reach out to their visitors more because newspapers have always asked for subscriptions. My findings agree with this, as subscription options appear in at least 10% more newspaper sites than television sites across all market sizes. In fact, the increase in subscription opportunities on print websites in larger markets and the decrease in subscription options on television websites in larger markets may show that the two mediums are actually trying to differentiate their product. The television websites in larger markets are less likely to add subscription options than those in medium and small sized markets, leaning towards the same character of their traditional medium as a news source that anyone can tune into and watch.

Cross-Owned Sites Are More Likely to Offer Subscriptions
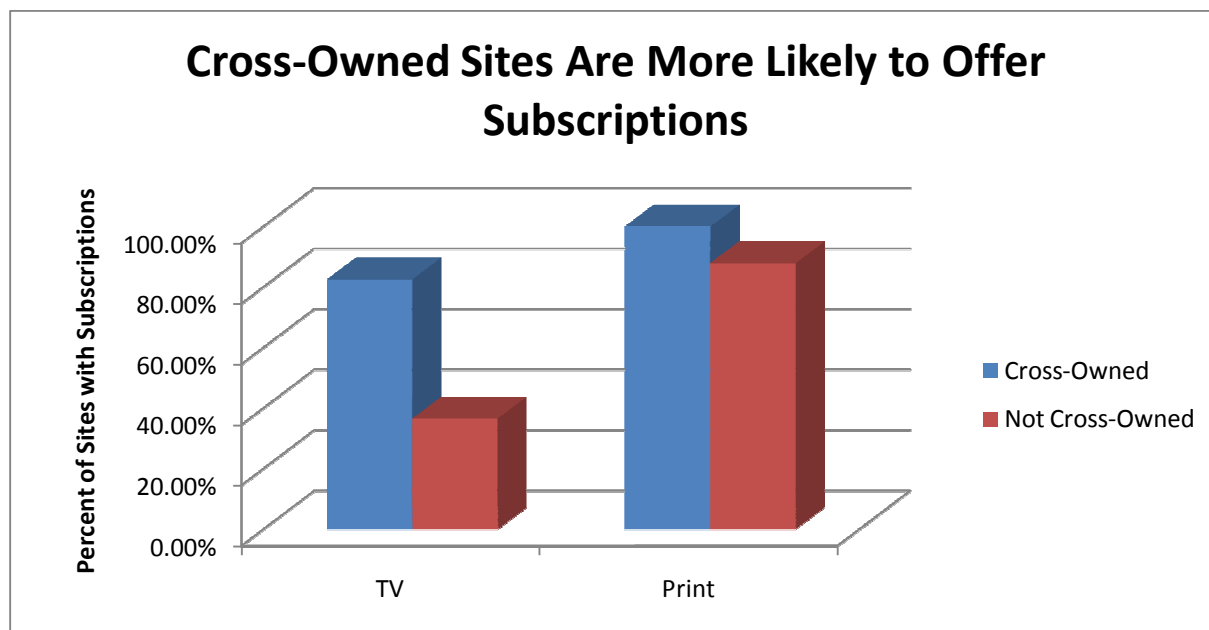
Separating the results by ownership could indicate that most cross-owned television stations mimic their newspaper partners and include subscriptions. This shows that cross-media ownership may lead a website to offer a certain aspect, in this case subscription, traditionally deriving from the other medium. Many television websites may not have the propensity to provide subscription services because customarily broadcast news stations have not asked consumers for subscriptions, but as they partner with newspapers, televisions stations may change their websites to offer this service.

Types of Subscriptions (H10)

As mentioned above, subscriptions play a role in how users access the website. A subscription will invite a user to continue to utilize the same news source, helping the news outlet retain customers. Various types of subscriptions invite viewers back to the website in

different ways. Online logins, specified as "online" in the chart below, allow the user to personalize the news website and increase the website's interactivity. Logins function similarly to subscriptions in newspapers in that they let the user establish an account with the news company to give the user more personalized service. Websites can also feature the option to subscribe to the print edition, which almost exclusively appears on newspaper websites.

Four other forms of subscriptions have developed recently. Users can subscribe to text updates, designated as "mobile," and online editions and newsletters from the news source, designated as "email." Users can also subscribe to an RSS feed (commonly translated as Really Simple Syndication), which allows them to show the news sites' stories on their own page. Lastly, users can subscribe to podcasts in which they hear recorded content produced by the news source.

Print Sites Use More Online and Paper Subsciptions

Percent of Sites with Type

	Online	Print	Mobile	Email	RSS	Podcast

■ Print
■ Broadcast

Type of Subscription
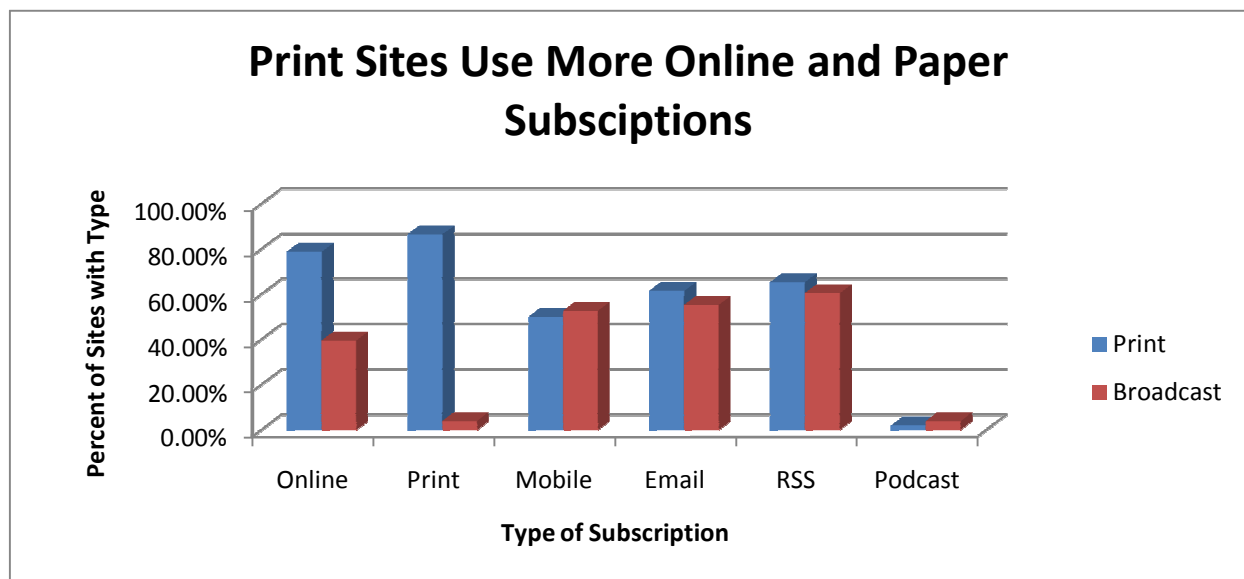
My hypothesis that a greater percentage of print websites would use subscriptions was correct, but this result changes slightly when broken down by type of subscription. Presence of

online logins and print editions were both much higher for print sites, a reasonable assessment due to the fact that newspapers have always asked for users to subscribe in order to obtain content. However, the two original mediums are much more similar when looking at mobile, email, and RSS subscriptions. Two of the subscription types are unique to the capabilities of the internet and the third, mobile subscriptions, has only become available as more of the population carries mobile phones. Almost the exact same number of sites by each original medium used each of the three feeds, meaning that they have equally adapted to the new opportunity of the web and mobile environments and see the value in providing those subscription services.
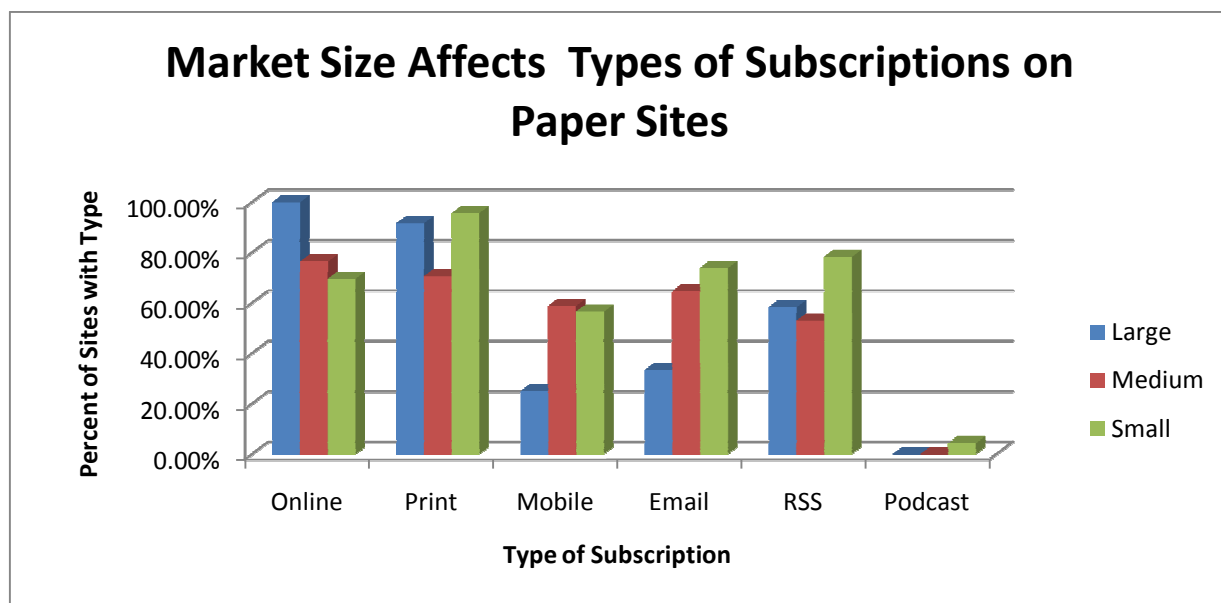
Further separating newspaper subscriptions by market size, larger market print websites tend to use online logins and print subscription options much more than they do mobile, email, and RSS feeds. In medium and small sized markets, on the other hand, the percentages remain relatively similar across types of subscription. This discrepancy between types of subscriptions in large markets could show that large market newspapers place the most importance on selling

their newspapers and retaining their traditional customer base. They continue traditional methods of selling subscriptions and print editions to their customers and do not attempt to utilize the newer forms of subscription.

How cold is it outside? (H11)

Predicting the weather is an extremely important aspect of both news mediums. Every morning newspaper includes the day's weather forecast and many television news blocks begin with weather segments. At broadcast news stations, the meteorologist is often one of the most highly paid employees! The immediacy that the internet provides makes news websites the perfect venue for a news outlet to show updated weather. Traffic updates appear on so few websites that they are not included in the analysis.
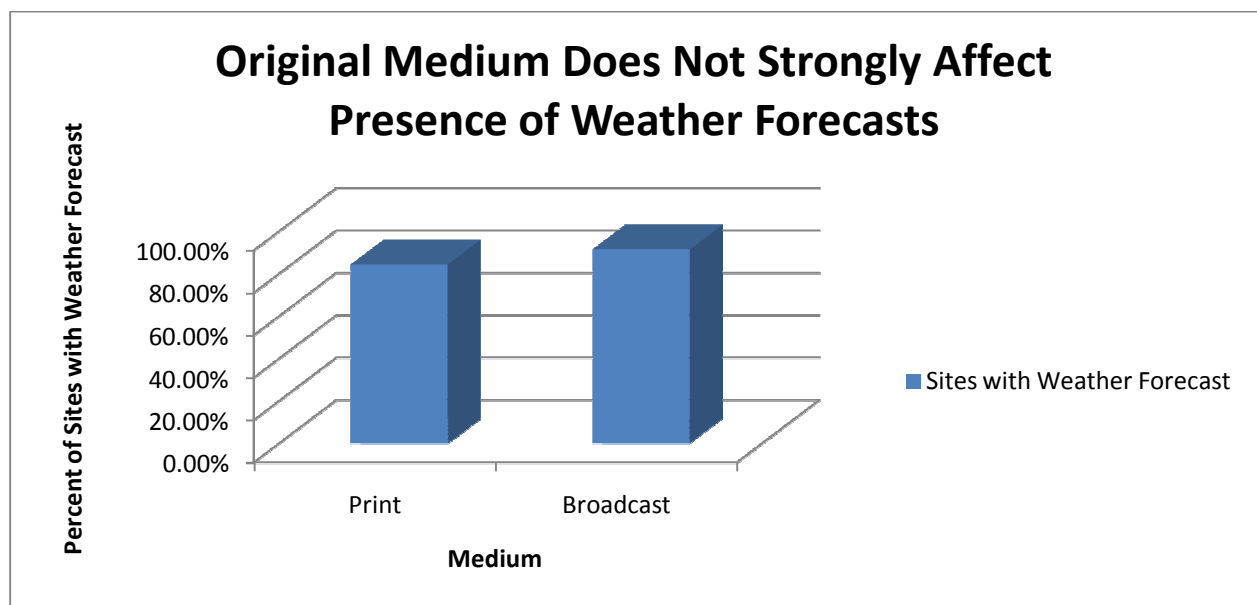
A large majority of print and broadcast websites include weather forecasts. Broadcast sites include a slightly greater percentage of weather forecasts than print sites do. This agrees

with my hypothesis, that because broadcast stations are more accustomed to updating weather forecasts frequently, they are better able to take that characteristic online.

Types of Forecast

A weather forecast can be shown in several different ways. Television stations have traditionally broadcast the weatherman in a live shot telling viewers what they can expect from the weather while at the same time using graphics and radar maps to illustrate how weather patterns are emerging. On the front page of newspapers, editors have used words to describe the weather prediction for the day. When these traditional mediums show weather online, the new platform opens both types of sources up to a market in which they can update the consumer right away in many ways. Newspaper web editors can simply update their text descriptions when they get new information about the weather. Weathermen at television stations can upload their Doppler radar maps and post a graphic of the next four hours of expected weather. In the following chart, the graphic type of display means the site showed either a computer generated graphic picture that showed the weather or a radar map. Description means that the site described the weather using words or a small icon, similar to what could appear in a newspaper (e.g. a cloud, the sun). "Both" refers to having both a description and a graphic. "Link" refers to only a link from another page that shows the weather.

Weather Display Type Differs by Medium
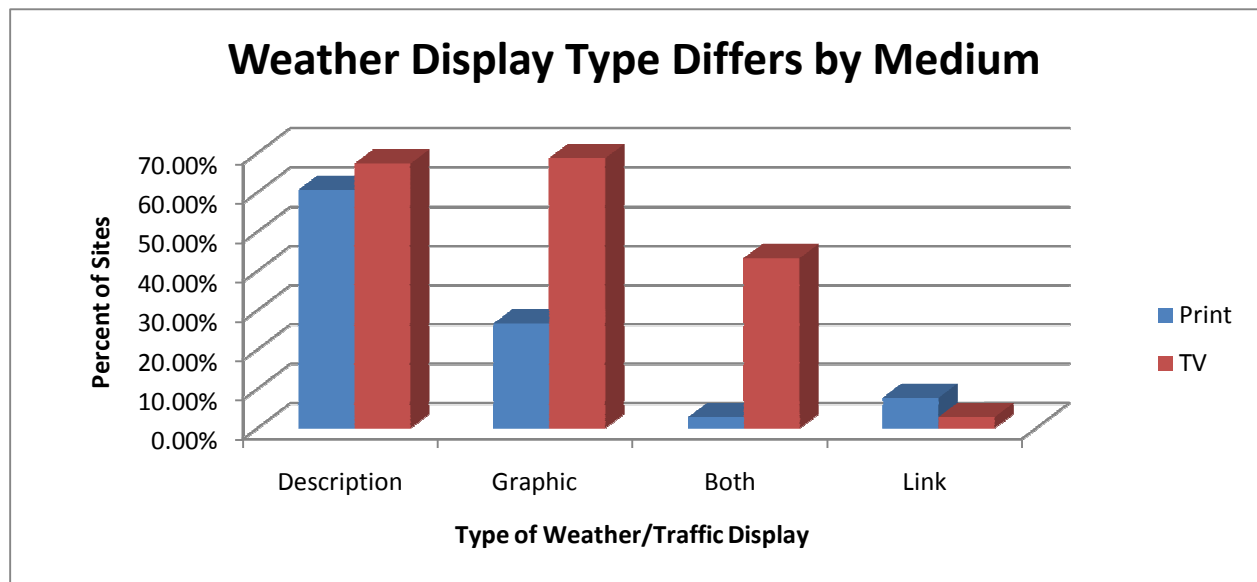
Separating the weather display types by medium, television news stations are much more interested in graphic displays on their websites and at the same time are more likely to have descriptions of weather as well. While I initially predicted that television and print websites would differ starkly in their presentation of weather along a description vs. graphic basis, television sites place more of both display types online. This could indicate simply that television news stresses the importance of online weather displays, but that does not immediately stand out from the previous chart. Competition forces may play a factor in driving television sites to present descriptions along with their traditional graphics, adopting a facet of newspaper weather displays in a way that is more conducive to web appearance.

Layout (H12)

The layout of a particular website is one of its most important characteristics, as front-page layout determines the viewer's first impression of the site and the ease with which the viewer navigates through the day's news. Print sites have a simple option to create their

website's front-page layout: format the website almost exactly like the print edition, in a linear manner that shows a big story with a picture in the center, a main story on the right or left column, and more stories beneath. Conversely, television stations lack a clear format that they can reproduce online and therefore must completely design their site. I hypothesized that television stations would use a "boxed" format which consists of a large box in the center with multiple rotating stories or a large central video player. The rest of the site is separated into boxes that hold other characteristics of the news, such as linked stories, promotions, weather, and polls.
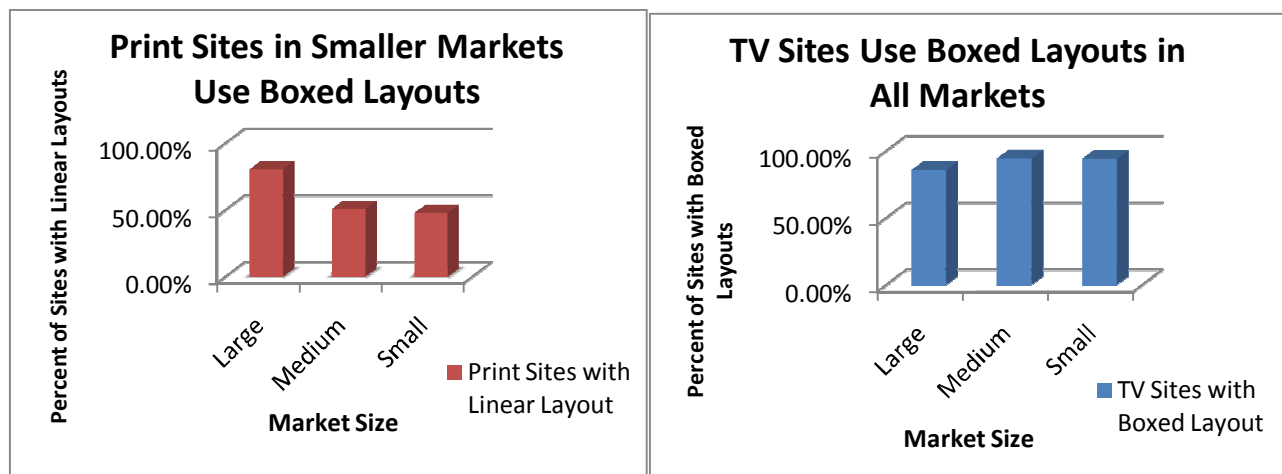
While television websites strongly favor boxed layouts, many print sites have not maintained linear types of layout. Over 80% of television websites in each market use boxed layouts, demonstrating that boxed layouts are very conducive to how television sites show their content. Broadcast sites can use boxed layouts to feature many of the website attributes that they frequently use, such as promotions, graphic weather displays and videos.

Print websites, on the other hand, show a tendency for linear or boxed layouts based on their market size. Large market print sites favor linear layouts, but medium and small market

print sites are slightly more likely to use boxed layouts. Large markets could use linear layouts to maintain their newspaper's distinctiveness. The websites would, as Barnhurst noted, then serve as a place holder for their newspaper circulation, maintaining their presence online but not redefining their product (Barnhurst, 2002). Smaller market sites, however, do not face the same kind of pressure to keep their identity, and present the front page of their sites in a way that mirrors that of television sites.

Cross-Owned Print Sites Are Not More Likely to Have a Boxed Format

Percent of Sites with Boxed Format

60.00%
40.00%
20.00%
0.00%

Cross-Owned Not Cross-...

■ Print Sites

Cross-Owned TV Sites Are More Likely to Have a Linear Format

Percent of Sites with Linear Format

15.00%
10.00%
5.00%
0.00%

Cross-Owned Not Cross-...

■ Broadcast Sites
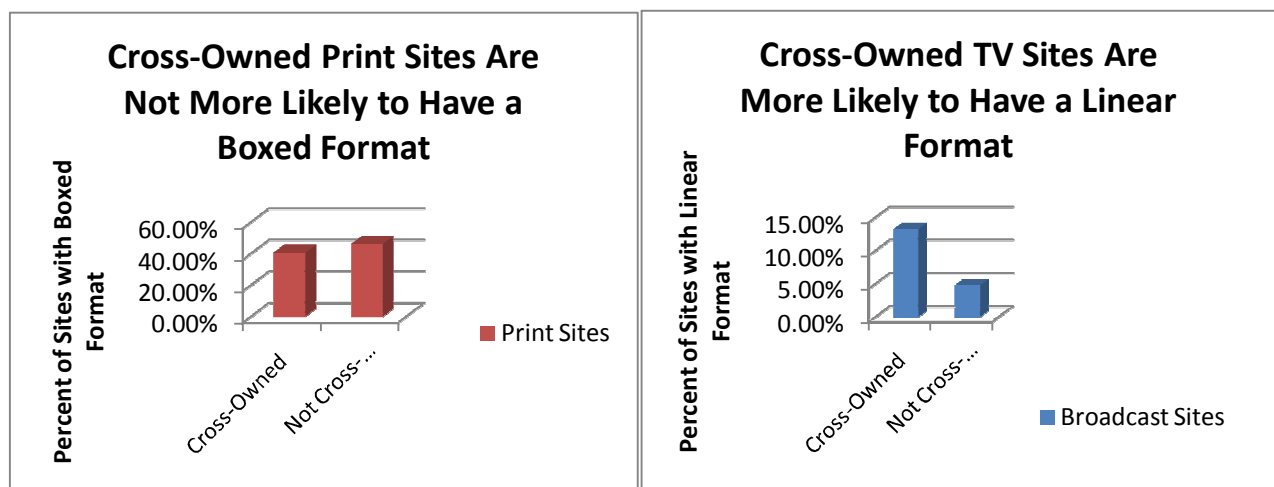
Separating websites within the original mediums into those that are cross-owned and those that are not gives interesting results for television websites. More than twice as many cross-owned television sites had linear formats than not cross-owned television sites. This indicates that television stations are more likely to mimic newspapers in formatting their site if they have a cross-owned newspaper partner. Very few television websites use linear layouts, but those that do likely do so because they are cross owned with a newspaper. Print sites do not show the same tendency, as cross-owned websites are less likely to use a boxed format than not cross-

owned sites. Analyzing the data by separating format by affiliation shows no patterns for either medium.

Sites From Television More Often Use Identical Layouts

A 3D bar chart with the y-axis labeled "Percent of Sites Identical to Another Site in Sample" ranging from 0.00% to 60.00%, and the x-axis labeled "Original Medium" with categories Television and Print. The Television bar reaches above 50% and the Print bar reaches about 15%. Legend: Sites.
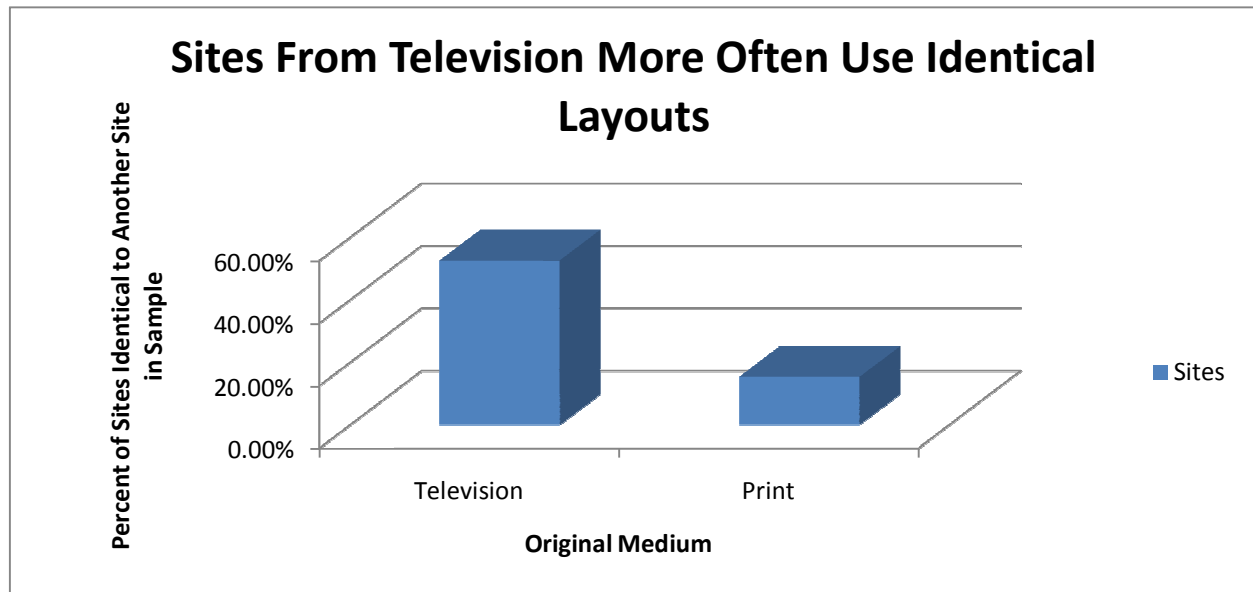
In observing and coding for variables on each of the websites, I noticed that many of the websites looked so familiar that I thought that I had seen them before. After looking at all the sites in their entirety, I found that pairs of sites had shared the exact same characteristics. These identical sites happen for several reasons, that sites are owned by a common national company, are partnered across mediums or in the same medium within a market, share a national affiliation or have hired the same website design business to create their website. These relationships dictate equivalence between the identical websites to an equal extent and no single connection seems to correlate with websites looking identical.

Identical websites are interesting, however, because within this study they occur far more frequently for television websites than for print websites. Only 15% of print sites were identical to another site in the sample, while 52% of television sites were identical to another site in the

study. The drastically lower percentage of newspapers that look identical to other sites may indicate that newspaper websites are trying to maintain their brand in the online market. Conversely, the higher percentage of identical television sites may indicate that they place less emphasis on maintaining a unique brand.

(Note: Some of the website files saved during the data collection process lost their page format when accessed later for coding. Links, promotions, video players, and other attributes were not pictured on the page in the same layout as originally formatted. This error occurred on an small number number of websites and did not correlate specifically with any medium, affiliate or other factor.)

Have a newsworthy video? Send it to our staff! (H13)

The inclusion of citizen news into news websites is a stark departure from both traditional news mediums. Neither newspapers nor television news has simply allowed an external source to contribute its own news to an extremely visible part of the news presentation. Newspapers and news broadcasts do not put stories from citizens on the front page of their daily newspapers or the A-blocks of their evening news. Many non-traditional news sources have used this method, as online bloggers and story aggregators post links to videos and stories written by someone not employed by the news source. By enabling their viewers to bring their own news stories to the websites, local television and print news websites are showing that they are also changing their sites to address competition from non-traditional news sources.

More Print Sites Use Citizen News than Broadcast Sites

Percentage of Sites with Citizen News

25.00%
20.00%
15.00%
10.00%
5.00%
0.00%

Print   Broadcast

Media Type
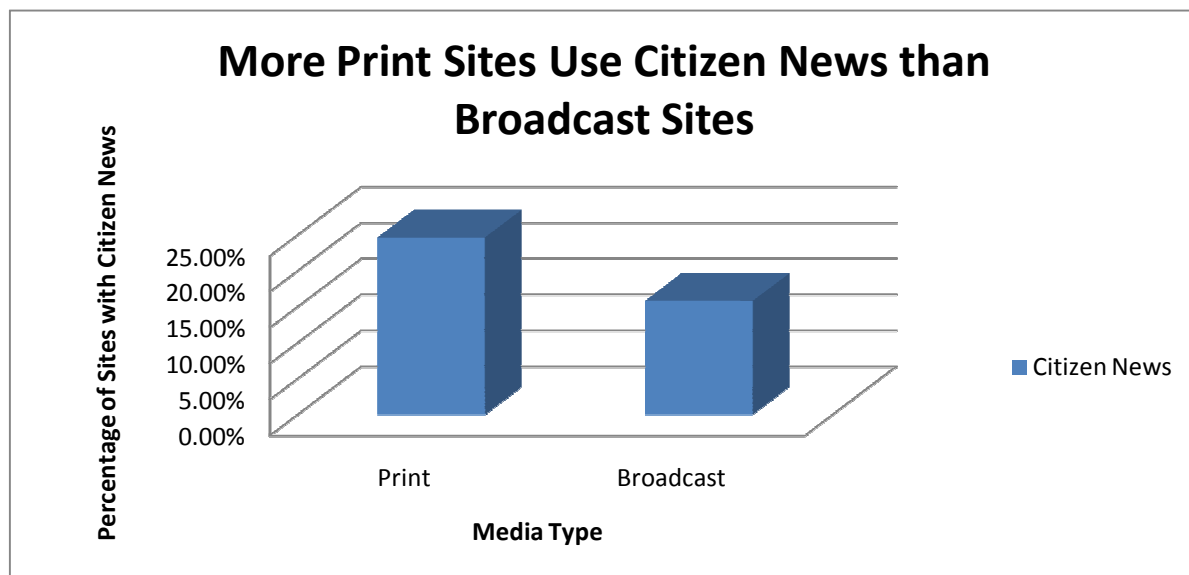
■ Citizen News

The data show that while the majority of print and broadcast websites have not adopted citizen news outlets, a greater percentage do so than I had initially predicted. Over 21% of print websites and just less than 15% of broadcast websites incorporate citizen news. This shows that an aspect of print and television media that had not existed before the internet has made a fairly large impact in the online news market, as some news sources are willing to let ordinary people post stories on the front page of their websites.

Are you worried about H1N1 in your town? (H14)

Polls, like citizen news, allow readers to easily react to a front-page issue in the news. A simple, one-sentence question posed by a website editor can gauge the public's opinion and in turn reveal the responses automatically on the front page by showing percentages or a graph. A question such as "Do you think the public is overreacting to the H1N1 virus?" will take one second out of each viewer's time but provides instant feedback to both the news station and anyone visiting the site. Newspapers and television stations have used polls in their reporting for

decades, but they have mostly been polls conducted by outside sources. News websites allow these news providers to integrate their own polls which they can change daily and see responses from their viewer base.

Broadcast Sites Are Slightly More Likely To Have Polls

Percentage of Sites with Polls

50.00%
40.00%
30.00%
20.00%
10.00%
0.00%

Print   Broadcast

Media Type

■ Sites with Polls
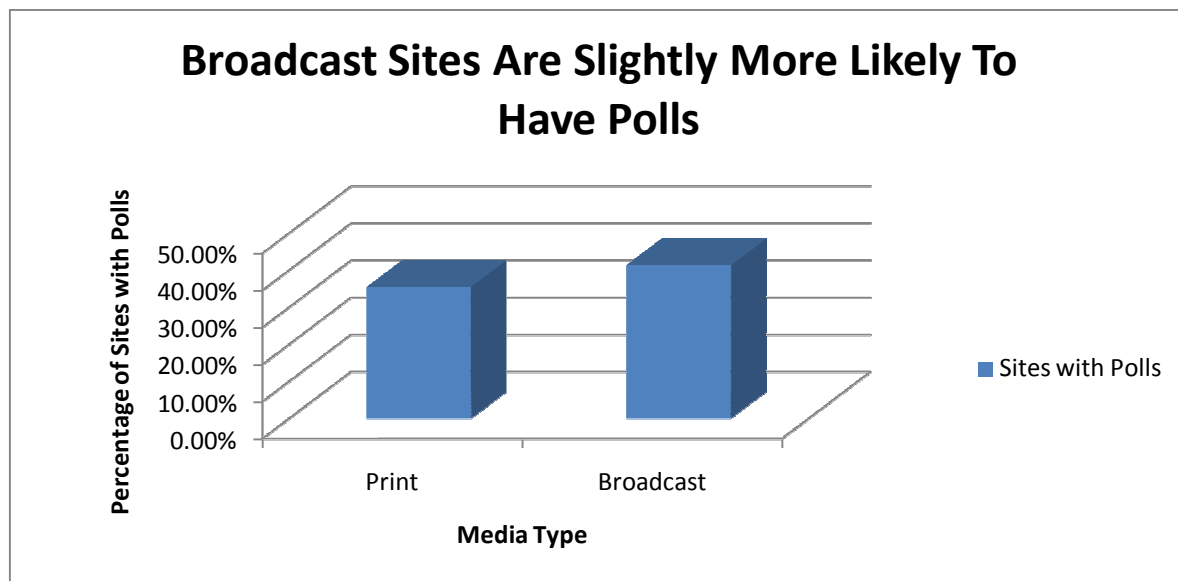
Broadcast sites are slightly more likely to use polls than print websites. Both have a relatively high frequency of polls appearing on their front page, as 30-40% of sites in either original medium use polls. Television sites may be more likely to use polling because the layout of their sites is more conducive to a box with a poll question, much like the weather graphic displays referenced above. Newspaper website layouts may need to be changed to include a poll, bringing down the number of newspaper sites with polls. Altogether, however, both types of sites have more polling options than I predicted.

What Affects How Local News Lay Out Their Websites?

Original medium of the news matters most in determining characteristics of a local news website. A majority of the variables observed in this study are influenced most strongly by the original medium of their news. Many of the characteristics that take up a large portion of the webpage (video players, text stories, and layout) tend to look similar between two newspaper sites or two television sites. In addition, original medium determines attributes that dictate how the user interacts with the news provider and vice versa (types of subscriptions, promotional content, and weather displays). Lastly, the source's original medium is indicative of the content that the user receives (geographic scope of stories, number of links to stories and videos, and types of links to external sites). These findings strongly support those of Lin and Jeffres in 2001, that broadcast and newspaper websites share aspects of their traditional mediums. It is noteworthy that the result that has not changed very much in eight years (Lin and Jeffres, 2001).

The strong influence of original medium on websites could be consistent with two explanations. Newspaper and television sites may be trying to maintain their distinctive elements in order to preserve their identity online, or the differences may simply result from characteristics of the original news source enduring on their websites. It seems likely that both explanations combine to account for the result.

The first explanation entails an active decision by the editors at television stations and newspaper companies to build their websites to resemble their offline product. Editors could be trying to help their customers become more accustomed to their brand and familiarize their browsing experience online. Because television news and newspapers have prior brands, website presentation may be responding to audiences' expectations for their outlet. In addition, editors

could differentiate their website by medium as a response to avoiding uniformity on the internet and by separating the website's identity from another medium.

The second explanation involves newspapers and television stations passively submitting their news online so that the content and presentation basically flow from their original medium's natural tendencies (i.e. television sites using video, print sites using linear layouts). This explanation would lack an active response from news sources in reaction to market pressures and as Barnhurst mentioned, more simply follow from news stations using their online sites as a place holder for their offline news (Barnhurst 2002-2). This explanation also likely entails a decision based on cost because it lessens the resources needed to produce a website.

Conversely, original medium does not matter with respect to other characteristics of websites, primarily relating to how users interact with each other and the stories. Discussion forums and the option to comment on stories do not favor either medium. A reason could be that these interactive elements may actually be new to both mediums and, unlike hypothesized earlier, do not stem from tendencies by either medium. This would be consistent with the similar percentages in adoption of citizen news and polls on television and newspaper websites.

Market size plays a role in several aspects of news websites as well. The timeliness of news stories and the presence of breaking news headlines vary strongly with market size. A reason for this correlation could be that there is simply a lesser amount of news stories in smaller markets, prompting news sources to put stories online less frequently. This may stem from smaller staff sizes in smaller markets collecting fewer news stories. Also, the smaller markets are in smaller cities that perhaps have fewer newsworthy events happening every day.

Another impact that market size has on news websites is the presence of video and text stories on the front page. As market size increases, both print and television websites use more video players on their websites, indicating perhaps that either larger news outlets in larger markets have more resources than smaller markets to gather and post video stories, or that smaller markets have not invested largely in video technology on their websites and favor posting text stories. Also, smaller market news websites contain more text stories for newspapers and fewer text stories for television stations. This finding could further show that newspapers in smaller markets are more likely to simply post their text stories to online front pages, while newspapers in larger markets have changed how they present their news, using links and videos instead of text.

In addition to the impact of market size on the above attributes, another interesting finding was that of the sites that completely changed their look over the course of the sample period, a much higher percentage of larger market sites transformed their entire front page. More than 35% of the large market sites altered their look while only 12% of medium market sites and 8% of small market sites changed theirs. This vast difference shows that sites in larger markets overhaul their front pages more often, which may result from cost-related decisions or a sense of competitiveness among large market news outlets spurring them to create new website front pages.

Cross-medium ownership correlates with websites having more forms of user interaction with other users and the news outlet, more opportunities to read news from outside sources, and a different layout of the site than not cross-owned websites. Measures of interactivity, shown as discussion options, comment options, and subscription options, all increase with cross medium

ownership. A possible explanation for this is that cross-owned sites borrow traditional aspects of the other medium: newspaper sites use more discussion options and television sites use more comment options and subscriptions.

Also, as predicted in the hypothesis, cross-media ownership correlates with an increase in external links. This makes sense because cross owned media outlets are accustomed to sharing stories, recognizing their partners, and helping advertise their partner to their audience. Lastly, cross-media ownership for television sites tends to associate with more linear layouts and front-page text stories. This relationship may show a willingness of television stations to adapt their websites to be more like those of their partners in how they display their site and their front-page news.

Affiliation to national networks affects the geographic scope of stories on websites and, as with ownership, increases the number of external links. Front-page stories that news sources designate as the most important on their site set a wider geographic area if they are affiliated with a national television network. Likewise, nationally affiliated websites more often link to external sites. As mentioned in the hypothesis, these characteristics are consistent with the explanation that these websites have better connections with their national affiliate and are more accustomed to sharing news with other news sources.

Implications for Policy

In creating media policy, the FCC states its policy goals as fostering competition, diversity, and localism ("Media Goals", 2009). These objectives were created with the intention

of improving the quality of media that audiences receive in order to keep citizens better informed in making decisions.

Given the scope of this project, the results may suggest policy implications. In response to the FCC's push for diversity in news sources, this study shows that original medium plays a large role in determining characteristics of local websites. This means that websites are maintaining their diversity of presentation by offering websites with a large variety of diverse attributes carried over from their original mediums.

In addition, while cross-medium ownership remains a salient issue for the FCC due to declining revenues for newspapers, it does not seem to promote negative outcomes for online websites and may increase the presence of positive characteristics. The options available for users to interact with the news and each other correlate with cross-medium ownership. This can represent a positive outcome because allowing increased audience interaction with news stories may improve the quality of their news consumption. The Telecommunications Act of 1996 requires the FCC to reassesses its media ownership rules every four years to "determine whether any of such rules are necessary in public interest as the result of competition" (Schwartzman et al., 2006). The results suggesting a lesser impact of cross-medium ownership on local news websites compared to other factors may help the FCC in formulating further cross-medium ownership policy.

Future Research

A limitation of this study is that it does not research how content appears on news websites and how television stations or newspapers choose which stories to post online. Increased knowledge concerning the flow of content from traditional mediums to websites may

be beneficial in determining the connection between the two. More data concerning where each news story originates, such as whether the story began as an original package from a television station, an editorial from the station's partnered newspaper, or a blog linked from the Huffington Post, would illustrate the relationship between the news people receive from the older mediums and what news the audience receives from the internet. Also, an analysis tracing the stories that traditional sources choose to post online may involve strong implications for the future of reporting and media policy. Online consumers may be receiving very different types or quantities of news than those reading newspapers or watching television.

Appendix A: List of Sources and Websites

Television Station or Newspaper	Website
WABC	http://abclocal.go.com/wabc/index
WPIX	http://www.wpix.com/
NYT	http://www.nytimes.com/
Newsday	http://www.newsday.com/news/local/newyork/
NY Daily News	http://www.nydailynews.com/index.html
My 9	http://www.my9tv.com/
LA Times	http://www.latimes.com/
LA Daily News	http://www.dailynews.com/
KTLA	http://www.ktla.com/
KCAL	http://cbs2.com/kcal/
KNBC	http://www.nbclosangeles.com/
Chicago Sun-Times	http://www.suntimes.com/index.html
WGN	http://www.wgntv.com/
Chicago Tribune	http://www.chicagotribune.com/
Daily Herald	http://www.dailyherald.com/
WFLD	http://www.myfoxchicago.com/
WLS	http://abclocal.go.com/wls/index
WFAA	http://www.wfaa.com/
Dallas Morning News	http://www.dallasnews.com/
The 33	http://www.the33tv.com/pages/main
TXA 21	http://cbs11tv.com/ktxa
Star Telegram	http://www.star-telegram.com/
AJC	http://www.ajc.com/
Atlanta Daily World	http://www.atlantadailyworld.com/
WSB	http://www.wsbtv.com/index.html
11 Alive	http://www.11alive.com/
MyATL TV	http://www.watl36.com/
WFLA	http://www.wfla.com/
Tampa Tribune	http://www.tampatrib.com/
St. Petersburg Times	http://tampabay.com/
WMOR	http://www.wmortv32.com/index.html
10 Connects	http://www.wtsp.com/
AZ Family	http://www.azfamily.com/
AZ Central	http://www.azcentral.com/
KPNX	http://www.azcentral.com/12news/
KPHO	http://www.kpho.com/index.html
WSVN	http://www.wsvn.com/
WPLG	http://www.justnews.com/index.html
My 33	http://cbs4.com/wbfs/
Miami Herald	http://www.miamiherald.com/

Sun Sentinel	http://www.sun-sentinel.com/
Miami New Times	http://www.miaminewtimes.com/
Hartford Courant	http://www.courant.com/
Fox61	http://www.fox61.com/pages/main
NBC Connecticut	http://www.nbcconnecticut.com/
WFSB	http://www.wfsb.com/index.html
WSYX	http://www.wsyx6.com/
WBNS	http://www.wbns10tv.com/live/content/index.html
NBC4i	http://www.nbc4i.com/
Columbus Local News	http://www.snponline.com/
Columbus Dispatch	http://www.dispatch.com/live/content/index.html
The Daily Reporter	http://www.sourcenews.com/
Cincinnati Enquirer	http://news.cincinnati.com/apps/pbcs.dll/section?Category=NEWS
Cincinnati Post	http://www.callandpost.com/home/default.aspx?qtest=Cincinnati
Cincinnati Beat	http://www.citybeat.com/cincinnati/
WCPO	http://www.wcpo.com/default.aspx
WKRP	http://www.wkrp.tv/index.htm
Fox19	http://www.fox19.com/
Journal Sentinel	http://www.jsonline.com/
TMJ4	http://www.todaystmj4.com/
Greater Milwaukee Today	http://www.gmtoday.com/
Fox6 now	http://www.fox6now.com/
CBS58	http://www.cbs58.com/
KSL	http://www.ksl.com/
ABC4	http://www.abc4.com/default.aspx
KJZZ	http://www.kjzz.com/
Deseret News	http://www.deseretnews.com/home/
Salt Lake Tribune	http://www.sltrib.com/
WHIO	http://www.whiotv.com/index.html
WDTN	http://www.wdtn.com/
WRGT	http://fox45.tv/
Dayton Daily News	http://www.daytondailynews.com/
Spokesman Review	http://www.spokesman.com/
KHQ	http://www.khq.com/
KREM	http://www.krem.com/
KXLY	http://www.kxly.com/
Paducah Sun	http://www.paducahsun.com/
WPSD	http://www.wpsdlocal6.com/default.aspx
WSBT	http://www.wsbt.com/
WHME	http://www.whme.com/
Fox28	http://www.fox28.com/
South Bend Tribune	http://www.southbendtribune.com/
KCRG	http://www.kcrg.com/
KFXA	http://www.kfxa.tv/

KWWL	http://www.kwwl.com/
WCFCourier	http://www.wcfcourier.com/
Gazette	http://www.gazetteonline.com/
Bristol Herald Courier	http://www.tricities.com/
Kingsport Times-News	http://www.timesnews.net/index.php
Fox Tri-Cities	http://www.foxtricities.com/
WJHL	http://www.tricities.com/
WKPT	http://www.wkpttv.com/
Morning Advocate	http://www.2theadvocate.com/
WAFB	http://www.wafb.com/
Fox44	http://www.fox44.com/
NBC33	http://www.nbc33tv.com/
The Eagle	http://www.theeagle.com/
Temple Daily Telegram	http://www.tdtnews.com/
Waco Tribune-Herald	http://www.wacotrib.com/
KCEN	http://www.kcentv.com/
KXXV	http://www.kxxv.com/
KWTX	http://www.kwtx.com/
WFMJ	http://www.wfmj.com/
WKBN	http://www.wkbn.com/default.aspx
FOX Youngstown	http://www.foxyoungstown.com/default.aspx
The Vindicator	http://www.vindy.com/
Florence Morning News	http://www.scnow.com/scp/community/morning_news/
WBTW	http://www.scnow.com/scp/community/wbtw/
The Sun News	http://www.thesunnews.com/visit/
The Myrtle Beach Herald	http://www.myrtlebeachherald.com/
MyFox Myrtle Beach	http://www.myfoxmyrtlebeach.com/myfox/
Carolina Live	http://www.carolinalive.com/
Forum	http://www.inforum.com/
KVLY and KXA	http://www.valleynewslive.tv/
WDAY	http://www.wday.com/
Ledger-Enquierer	http://www.ledger-enquirer.com/
Opelika-Auburn News	http://www.oanow.com/
WRBL	http://www.wrbl.com/
WXTX	http://www.wxtx.com/
WLTZ	http://www.wltz.com/
News Herald	http://www.newsherald.com/
WMBB	http://www.panhandleparade.com/index.php/mbb/
Jackson County Floridian	http://www.jcfloridan.com/
WJHG	http://www.wjhg.com/
Quincy Herald Whig	http://www.whig.com/
Patriot Ledger	http://www.patriotledger.com/
WGEM	http://www.wgem.com/
KHQA	http://www.connecttristates.com/

Appendix B: t-Tests for Significance

t-Test for H1, hours since most recently updated story:

t-Test: Two-Sample Assuming Unequal Variances

	Variable 1	*Variable 2*
Mean	6.25962963	6.313538
Variance	54.56884217	97.18531
Observations	27	26
Hypothesized Mean Difference	0	
df	46	
t Stat	-0.022464032	
P(T<=t) one-tail	0.491087483	
t Critical one-tail	1.678660414	
P(T<=t) two-tail	0.982174967	
t Critical two-tail	2.012895567	

t-Test for H3, number of links to news videos:

t-Test: Two-Sample Assuming Equal Variances

	Variable 1	*Variable 2*
Mean	4.293184	10.29868
Variance	9.505431	52.05489
Observations	51	76
Pooled Variance	35.03511	
Hypothesized Mean Difference	0	
df	125	
t Stat	-5.60515	
P(T<=t) one-tail	6.33E-08	
t Critical one-tail	1.657135	
P(T<=t) two-tail	1.27E-07	
t Critical two-tail	1.979124	

t-Test for H4, number of links to text stories:

t-Test: Two-Sample Assuming Unequal Variances

	Variable 1	Variable 2
Mean	62.59197	37.54712
Variance	1291.69	448.3952
Observations	51	77
Hypothesized Mean Difference	0	
df	73	
t Stat	4.487303	
P(T<=t) one-tail	1.32E-05	
t Critical one-tail	1.665996	
P(T<=t) two-tail	2.64E-05	
t Critical two-tail	1.992997	

t-Test for H9, number of promotional graphics or banners:

t-Test: Two-Sample Assuming Unequal
Variances

	Variable 1	Variable 2
Mean	4.324561	1.667582
Variance	9.02934	3.041794
Observations	76	52
Hypothesized Mean Difference	0	
df	123	
t Stat	6.310008	
P(T<=t) one-tail	2.29E-09	
t Critical one-tail	1.657336	
P(T<=t) two-tail	4.59E-09	
t Critical two-tail	1.979439	

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